



NORTH U.

FOURTH
EDITION

MATCH RACING PLAYBOOK

BY DAVE PERRY



NORTH SAILS GO BEYOND™

North U.
Match Racing
PLAYBOOK

4ed.

By Dave Perry

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This Playbook is based, in part, on the *WIMRA North U. Match Racing Playbook*, which is no longer in print.

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NORTH U. MATCH RACING PLAYBOOK, 4ed.

By Dave Perry

Match racing is an exciting game in which just two boats race against each other at a time. The racing highlights precise boat handling, timing and positioning, as well as the traditional tactics and strategies of fleet racing. The more you match race, the better you will get in fleet racing, as boat handling and reaction times improve, and knowledge of how to handle tactical situations with just one other boat arise (as they often do within a fleet race).

However, match racing involves some tactics and strategies that are not commonly used in fleet racing, particularly at the start, on the downwind legs, and when you or the other boat has a penalty. This Playbook describes some of the tactics and strategies that are particular to traditional keelboat match racing. It is not a comprehensive textbook on Match Racing. Your study should include reading:

- * the rules for match racing, located in Appendix C of *The Racing Rules of Sailing*; and
- * the umpire calls for match racing, located in the World Sailing Match Racing Call Book, available from World Sailing.

In particular, on January 1, 2017, the 2017-2020 *Racing Rules of Sailing* (RRS) went into effect. The new match racing rules were called “The 2016 Test Rules for Match Racing.” They are now in RRS Appendix C, Match Racing. The significant changes included the deletion of rule 17, On the Same Tack; Proper Course and changes to rule 18, Mark-Room. The game changes caused by these new rules are incorporated into this edition of the *Match Racing Playbook*. For a complete study of these new rules, go to the US Sailing Match Racing webpage (address in the Resources section of this Playbook).

This Playbook focuses on the tactics and strategies used by the sailors. For more information about running and umpiring match races, as well as how match races work, go to the US Sailing Match Racing webpage (address in the Resources section of this Playbook).

Address Information on all the above-mentioned items can be found in the Resources section of this Playbook.

Enjoy your match racing!

Dave Perry
Five-time U.S. National Match Racing Champion
Two-time Congressional Cup winner

North U Match Racing Playbook

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Chapter 1...The Pre-Start

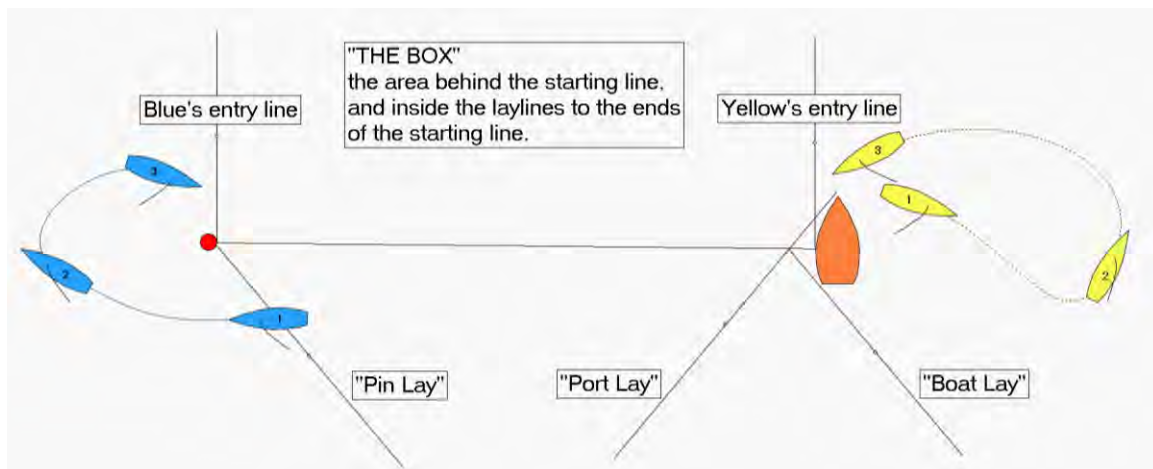
The Pre-Start is unique to Match Racing, and requires much study and practice to become proficient. The boats have four minutes to fight each other for the better position off the starting line, and much can happen (good and bad) in those short four minutes.

PRE-START HOMEWORK

The higher the quality and amount of information you have about the starting line, the more precise and effective your tactics will be at the start. The chart below shows the various “lines” you need to know before the pre-start begins. Your tactics will vary depending on where you are in the starting area.

Information you need to gather before entering the Pre-Start:

- 1) angle of line to the wind (which end is more upwind, if either)
- 2) time it takes to sail from one end of the starting line to the other (usually around 25 seconds)
- 3) laylines to each end (which will build in current effect)
 - a) at full speed and at down speed (esp. the starboard layline to the Pin)
- 4) line sights
 - a) through both ends sighting along the line
 - b) through both ends, sighting along the laylines to each end
- 5) wind information (direction and velocity patterns)
- 6) time it takes to do one “circle”
- 7) What end and match number you are, and who you are racing next



PRE-START GOALS (what's the Point of the Pre-start?)

The point of the Pre-Start is to start the race in a better position than your opponent to take advantage of the first windshift and win the First Cross, or to get to the favored side of the first beat in a stronger position than your opponent; in other words, to get your First Choice. If you can start directly ahead of your opponent, or your opponent starts with a penalty, that is a bonus. Of course, it is your goal to not receive a penalty, nor to start directly astern of your opponent as well.

PRE-START PLAN (what is your First Choice?)

Before entering the Pre-Start, you have one basic decision to make: which side of the other boat do you want to start on (their Right or Left?). This will be determined by:

- 1) which side of beat is favored (wind, current, etc.)
- 2) is one of the ends of the starting line more upwind than the other
- 3) how windy is it

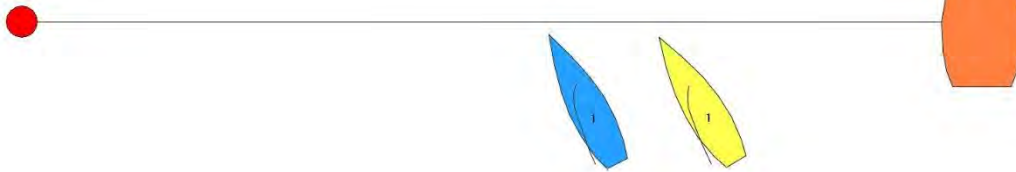
Here are some general rules when making this decision:

- 1) start to RIGHT of opponent when:
 - a) the line is square or up to 5 degrees pin end favored
 - b) it is not clear which side is favored, or the right is favored
 - c) it is over 8 knots and pretty flat water
 - d) it is a fairly steady wind
 - e) you think you are faster and/or a stronger match racer than your opponent
- 2) you can consider starting to LEFT of opponent when:
 - a) you can start on opponent's lee-bow with enough speed or bow-out to be able to force them to tack soon after the start, and then tack to windward and HANG on port tack all the way to the starboard layline
 - b) you can start on opponent's lee-bow and eventually cause them to tack (maybe because of a left-hand windshift or more favorable current) and you want to defend the left side because you are confident you will be able to eventually CROSS them when on port tack
 - c) the pin end of the starting line is heavily favored (10 degrees or more), meaning you will be able to easily CROSS them at some point soon after the start
 - d) it is under 8 knots and/or choppy

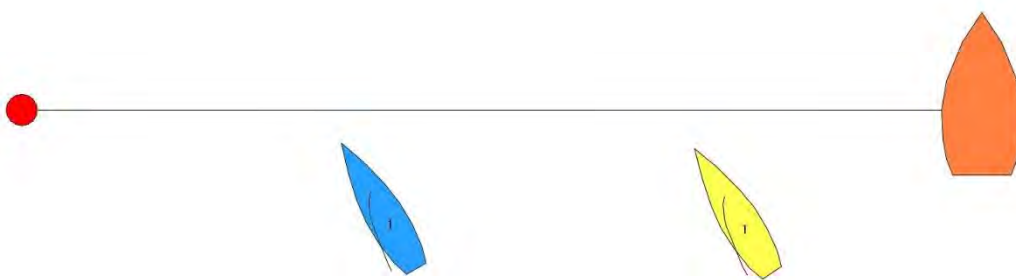
THE FOUR STARTING POSITIONS

- 1) **Close to Leeward** – the leeward boat is close enough to the windward boat so that windward boat is forced to tack away before the port layline to the windward mark
- 2) **Windward with a Gap** – the windward boat has enough space (gap) between herself and the leeward boat to be able to live there all the way to the port layline to the windward mark
- 3) **Split Start** – the two boats start on opposite tacks, usually at opposite ends of the starting line
- 4) **The Crush!** – when one boat starts directly in front of the other boat

CLOSE TO LEEWARD



WINDWARD WITH A GAP



SPLIT START



CRUSH!



When you want to start to the RIGHT of your opponent (and assuming the start is not a Crush):

Windward with a Gap is the strongest position. The **Split Start**, with you on port tack, is the next strongest. **Close to Leeward**, with you as the windward boat, also gets you the right but is the weakest. The reason is that it ends up looking like the **Split Start** but the tack to port is done after the start and so you will have done one more tack than your opponent when the boats converge for the first time after the start.

When you want to start to the LEFT of your opponent (and assuming the start is not a Crush):

Close to Leeward, with you as the leeward boat, is the strongest position. The **Split Start** with you on starboard tack is the only other option.

PRE-START GLOBAL STRATEGIES / THOUGHTS

These are some general suggestions that almost always apply. If you keep these in mind, it will keep you out of major trouble:

- 1) be to RIGHT of opponent until about 2:00 to start; then be to LEFT
- 2) when near opponent, get off STARBOARD TACK as QUICKLY as possible; never extend on starboard
- 3) “circle” in OVALS, extending on port tack each time to build speed
- 4) come out of circle on BEST SPEED-BUILD ANGLE (will vary with boats, breeze and situation)
- 5) have constant communication about:
 - a) location in starting area (where relative to laylines, etc.)
 - b) time to ends or middle of line (when sailing AWAY FROM the line)
 - c) time to start
 - d) time to burn (difference between time to start and time to line) when sailing TOWARDS the line

THE THREE PHASES OF THE MATCH RACE PRE-START

The Pre-Start begins at 4:00 minutes to start. It can be broken down into three distinct phases.

Phase 1) Entry & Initial Meeting Phase (from 4:00 ~ 3:00 min. to start)

Phase 2) The Middle Phase (from ~ 3:00 - 1:30 min. to start)

Phase 3) The Final Approach (from ~ 1:30 min. – 0:00 to start)

Each phase has its own objectives, strategies and tactics. Here are some thoughts on each Phase.

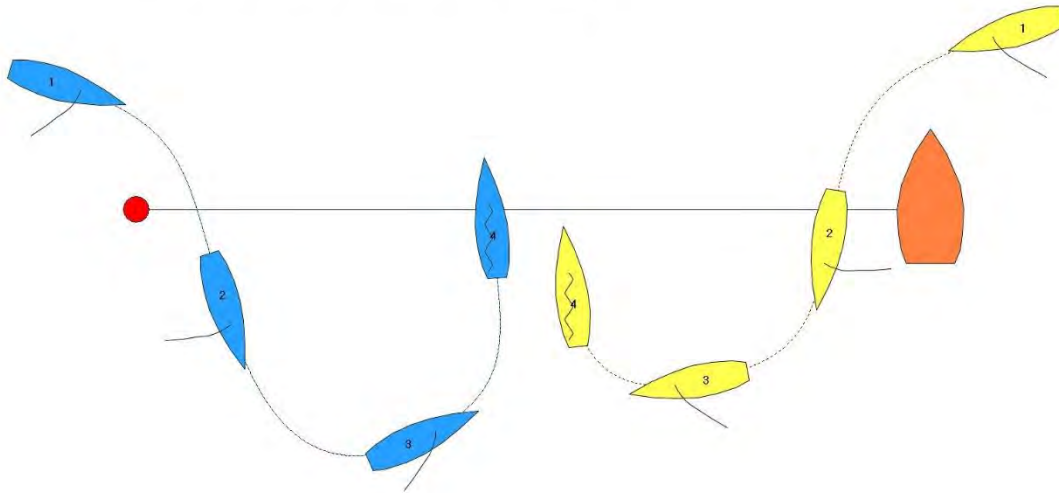
Phase 1) Entry & Initial Meeting Phase (from 4:00 ~ 3:00 min. to start)

To “enter” you have to be outside your pre-assigned end of the starting line at 4:00 to start, and then completely cross the starting line from the course side (windward side) to the other side between 4:00 and 2:00 to start. The Blue boat enters at the Pin end of the starting line on port tack, and the Yellow boat enters at the Committee Boat end on starboard tack.

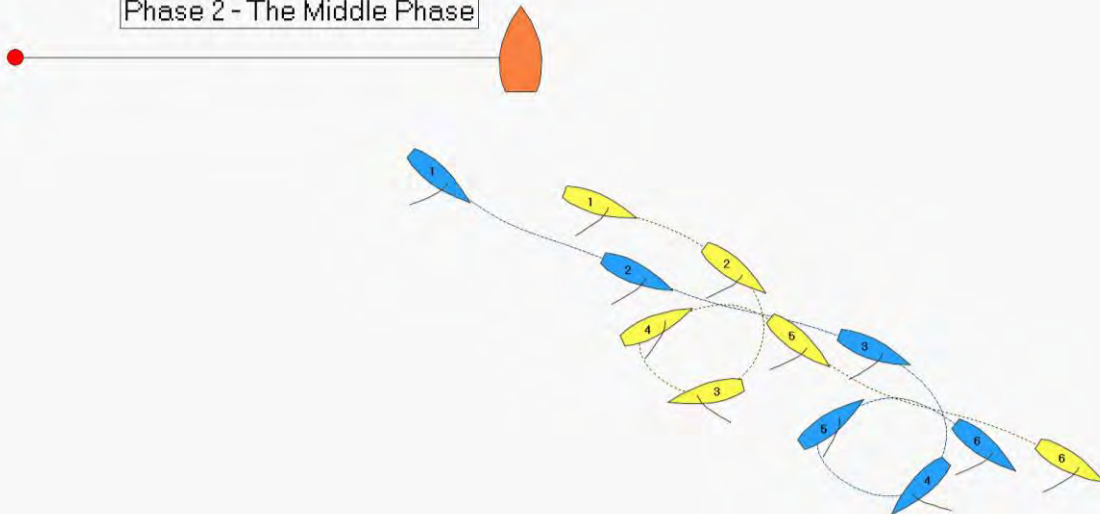
OBJECTIVE for Entry

- 1) Enter (sail past your end) within three (3) seconds after 4:00 minutes to start, at full speed.
- 2) If you are not outside your end at 4:00, or do not first cross the starting line from the course side to the other side between 4:00 and 2:00, you will receive a penalty from the umpires. Once you get a penalty for one or both of these things, you no longer need to comply with those requirements.

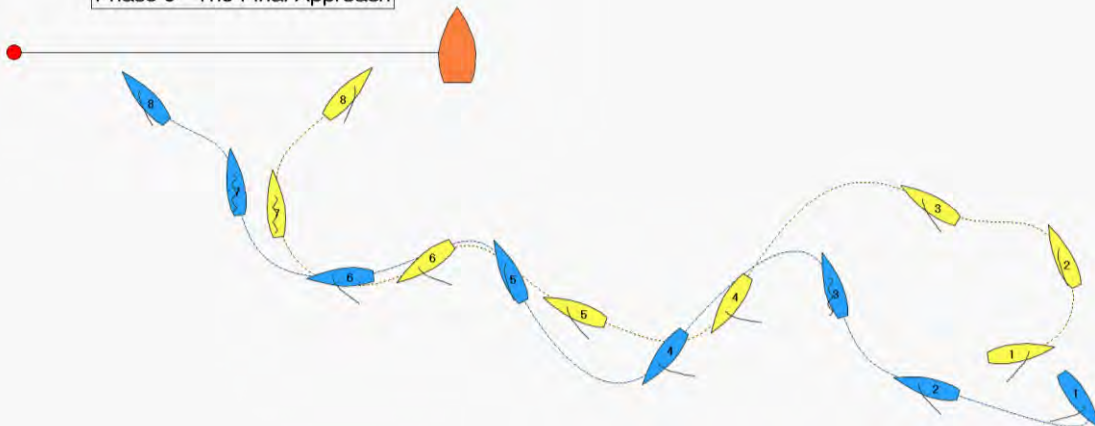
Phase 1 - Entry and Initial Meeting

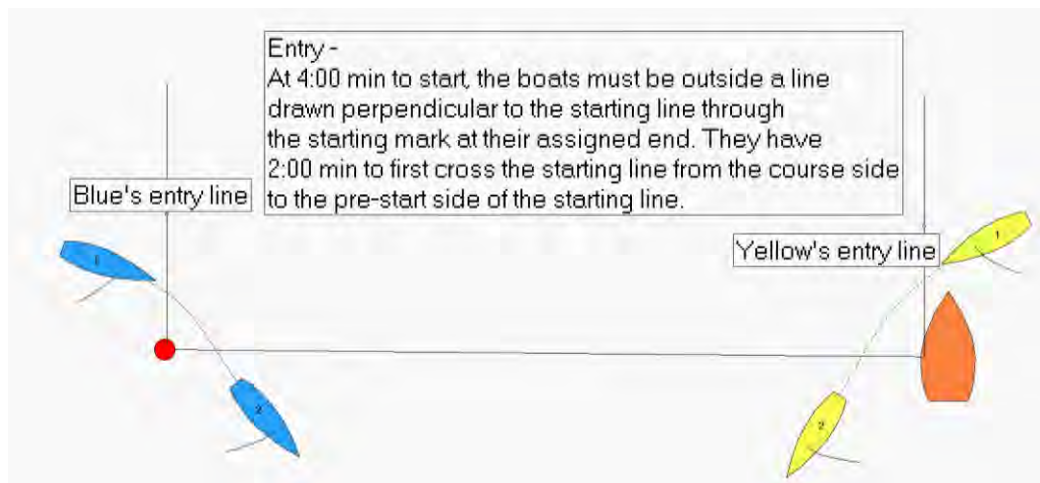


Phase 2 - The Middle Phase



Phase 3 - The Final Approach





STRATEGIES & TACTICS for Entry

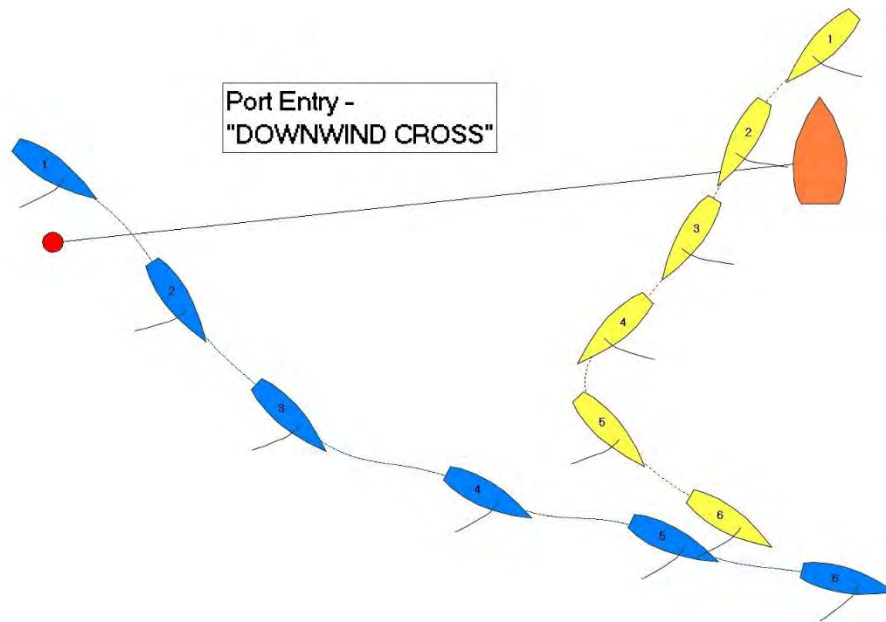
- 1) Do timed loops (figure 8's with no gybes); be at your end with between 1:00 minute and 40 seconds to start, sailing away from the line on a beam reach. Tack when you have sailed for exactly half the time from when you were at your end until you enter (4:00 min. to start). For instance, if you were at your end at 4:50 (50 seconds to enter), tack at 4:25.
- 2) After passing your end, bear off to a broad reach at full speed (vang on, jib sheet outboard to the max, etc.)
- 3) be sure your stern completely crosses the starting line; you have two minutes after the prep signal to do this (but do it as soon as possible)
- 4) look over at the other boat to see if she is:
 - a) late on her entry
 - b) slower or faster than you
 - c) crossing or not crossing you (if she's on port tack)
- 5) decide what opening move you are going to make

OBJECTIVE for Initial Meeting

- 1) Starboard Entry (Yellow)
 - a) Gain control of the port entry boat (Blue) – Keep to Blue's right
 - b) Keep control of the port entry boat (Blue) – Keep to Blue's right
 - c) Don't end up being controlled by port entry boat (Blue)
- 2) Port Entry (Blue)
 - a) Avoid being controlled by starboard entry boat (Yellow) - Get to Yellow's right
 - b) Escape the control of the starboard entry boat (Yellow) - Get to Yellow's right
 - c) Gain control of the starboard entry boat (Yellow)

GLOBAL thoughts for Initial Meeting:

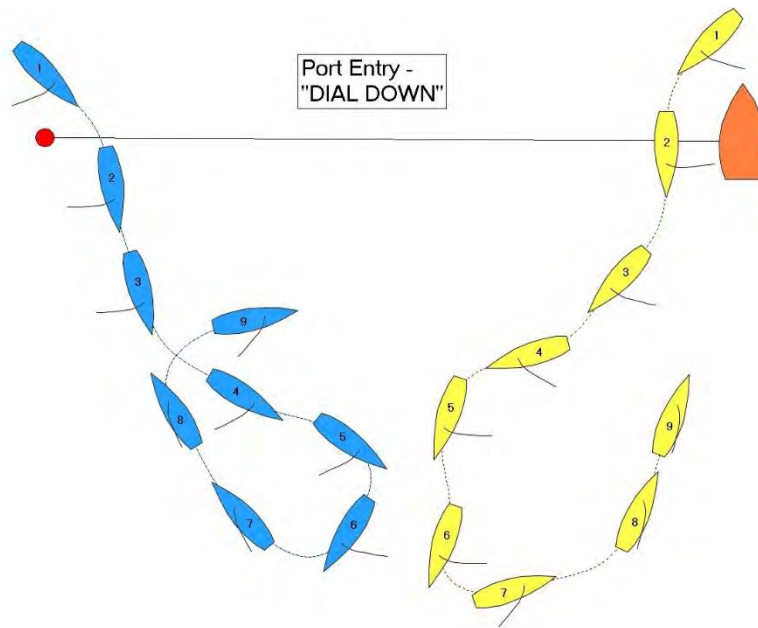
- 1) Don't get a penalty!
- 2) Exit this phase in a neutral or controlling position to begin the Middle Phase of the Pre-Start:
 - a) 3 to 4 boat lengths ahead of the other boat on port tack (you are the "leading boat on port tack"), or
 - b) less than two lengths behind the other boat on port tack (you are the "trailing boat on port tack")



STRATEGIES & TACTICS for Initial Meeting

The Blue Boat (entering from the Pin End)

- 1) If the Pin End is more downwind than the Boat End, or Yellow is late or slow at her entry, Blue can often cross downwind of Yellow (Downwind Cross).
 - a) This avoids the Dial-Up, but often results in Yellow gybing into a strong, often controlling, position astern of Blue.
 - b) To see if you are crossing, watch the land in front of Yellow's bow; if more is appearing, you are crossing. But remember that Yellow can turn down farther if needed.
 - c) After crossing, and after Yellow has gybed, stay low; do not head up at all. Consider doing a circle to open up more space between you and Yellow.
 - d) When in doubt about crossing, take the Dial-Up (to avoid having to do a Dial Down).
- 2) If the Pin End is more upwind than the Boat End, or Yellow is late or slow at her entry, Blue can often cross upwind of Yellow (Upwind Cross). (See *Starboard Entry Tack & Follow*, pg. 15, for Upwind Cross figure.)
 - a) Once Blue has completely entered (crossed the starting line), she should luff quickly to a close-hauled course.
 - b) If she crosses Yellow, Yellow will tack to leeward or astern of her. If Yellow tacks too soon, Blue may be able to bear away sharply and set up astern of Yellow in a controlling position.
 - c) If Yellow tacks to leeward or astern and Blue cannot get astern of her, Blue needs to press down and sail over the top of Yellow. Blue's goal is to pass as close to windward of the Race Committee Boat as she can, and then begin her Escape maneuver from there.
- 3) If Blue cannot cross Yellow downwind or upwind, there will be a Dial-Down or a Dial-Up.



The Dial-Down

If Blue can't cross Yellow, and Blue is too late to luff and cross Yellow or tack, Yellow will bear off and force Blue to gybe to keep clear. This is a bad outcome for Blue and should be avoided at all costs. If Blue is in this position:

- 1) Blue has to gybe to keep clear of Yellow. Blue wants to be going as slowly as possible in this maneuver, forcing Yellow to overlap her on her port side (leeward side). Blue wants Yellow to be farther downwind if possible
- 2) Blue should overtrim her mainsail and oversteer to slow down
- 3) Watch Yellow's boom; if it flicks over to her starboard side, she is on port tack. Blue should immediately gybe to become the leeward boat on port tack
- 4) Once Yellow is securely locked on Blue's port side (leeward side), Blue can luff, extend if needed, and tack to port to exit the Initial Meeting

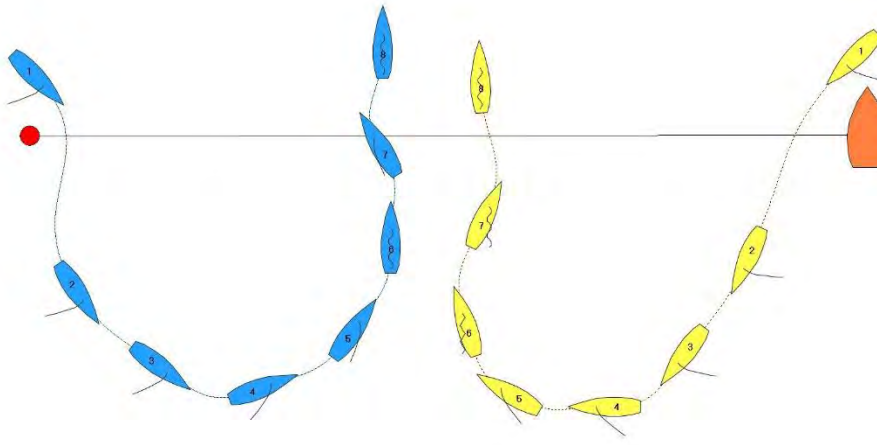
The Dial-Up

The "Dial-Up" occurs when Blue and Yellow are converging, and Yellow begins aiming at Blue. This forces Blue to head up. Yellow continues to head up aiming at Blue, which causes Blue to tack to keep clear. Yellow then sails head to wind alongside Blue.

Blue's Plays in the Dial-Up

There are three general plays for Blue, and this should be decided before the Dial-Up occurs:

- 1) tack into near full-stop mode (Dial-Up; best in 7-10 knots); or
- 2) tack into full speed upwind race mode (Dial-Up and Sail; best in under 7 knots); or
- 3) tack and continue right into a gybe (Dial-Up and Gybe; best in over 10 knots).



Dial-Up and Stop (7-10 knots)

- 1) After entering and closing to within 4-5 lengths, be prepared to begin the luff that will lead into the tack to keep clear. Don't get a penalty here by delaying too long.
- 2) If Blue is faster or even in speed coming into the Dial-Up, she can slow by luffing her jib. She can further burn speed by spinning the boat faster in the tack, and/or by backing her mainsail on her port side once she has borne away to a close-hauled course and is turning back up to head to wind on starboard.
- 3) After passing head to wind, Blue should go all the way down to close-hauled, then immediately back up to head to wind with bow at Yellow's bow, or farther back if possible. By going to close-hauled, Blue becomes the right-of-way boat, and begins to put pressure on Yellow. Try to be the same speed or slightly slower (but not too much!), with $\frac{3}{4}$ of a length between the boats, or less if possible. Yellow will be unable to swing her bow astern of Blue, and may drift down and foul her.
- 4) Be sure the jib sheets are free to run as far as the clew wants to blow out to each side. Any tension, even caused by friction, can "trim" the jib and cause the bow to move in a way not desired.
- 5) When downspeed, the bow is controlled by pushing the jib to one side or the other (usually by a crew member on the bow facing aft), and by pushing the boom out (pushing the boom out to starboard causes the boat to pivot onto port tack). It is also controlled by active tiller movement (note "match race sculling" is "repeated movement of the helm to propel the boat forward." Rule C2.16).

When to exit...

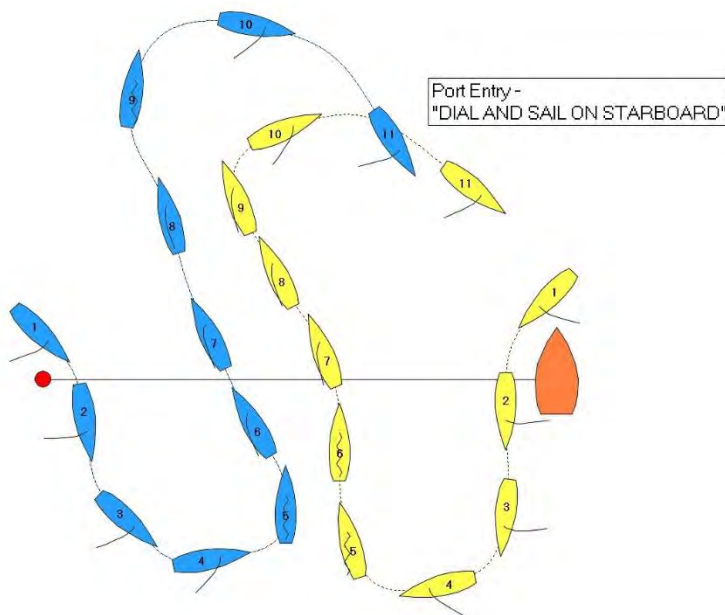
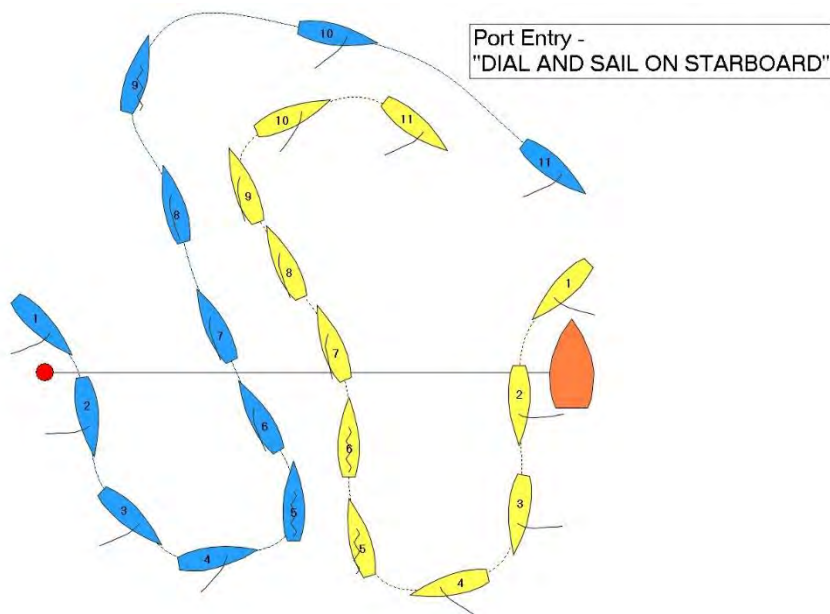
- 1) Blue should exit the Dial-Up when:
 - a) she is at risk of fouling Yellow
 - b) she has the opportunity to escape the control of Yellow
 - c) she has the opportunity to gain control over Yellow

How to exit...

- 1) match Yellow's tack to port tack (watch Yellow closely and react by backing your jib immediately)
- 2) match Yellow's speed build on starboard tack; i.e., stay to leeward of S on starboard tack
- 3) sail close-hauled on starboard tack, extend and tack and cross Yellow
- 4) tack first and pass astern of Yellow (very common as Yellow often over-runs Blue)

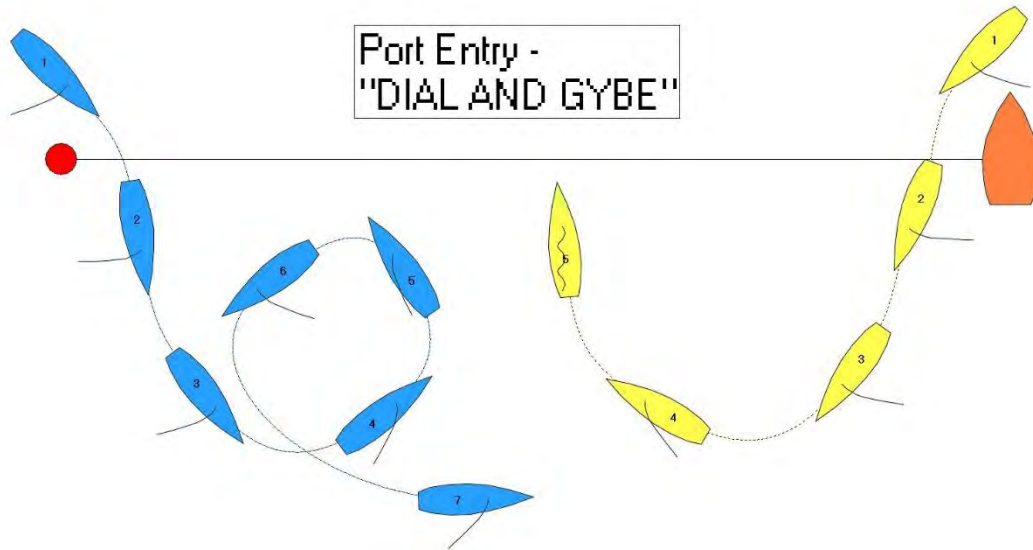
Dial-Up and Sail (under 7 knots)

- 1) Blue does a normal tack and comes out with sails and boat trimmed for max upwind close-hauled sailing (traveler up, boat flat, etc.).
- 2) Yellow will trim and attempt to hang to windward. Eventually Yellow will drop in astern and Blue can safely tack. Try to extend 1-2 lengths farther than needed to tack and cross, if you can do so before 2:30 to start.
- 3) When Blue tacks, watch Yellow. If she tacks too soon, Blue can bear off sharply and take up position behind Yellow, and become the trailer
- 4) Otherwise, Blue needs to reach down over the top of Yellow and to pass as close to windward of the Committee Boat as possible.



Dial-Up and Gybe (over 10 knots)

- 1) Blue tacks and continues bearing away right into a gybe, never hesitating for a moment unless S can turn down inside her and defeat her gybe. Blue has the element of surprise on her side for this move.
- 2) Back the jib, ease the main, and then roll the boat hard to windward for the bear away.
- 3) If Yellow can defeat the gybe, it turns into a Dial-Down.



The Yellow Boat (entering from the Committee Boat End)

1) If the Pin End is more downwind than the Boat End, or Yellow is late or slow at her entry, Blue can often cross downwind of Yellow (Downwind Cross).

- a) Yellow should sail as deep as possible, including winging the jib, to try to prevent Blue from crossing
- b) If Blue will cross, Yellow should keep her speed and gybe when slightly above Blue's centerline
- c) If Blue luffs, Yellow can set up close astern and to leeward, and possibly prevent Blue from gybing
- d) If Blue will cross by four lengths or more, Yellow can gybe immediately after entering. Often this will cause Blue to luff thinking they are safe. Yellow can then gybe and create a Dial-Up or closer Downwind Cross. (See *Downwind Cross* figure, pg. 7.)

2) If the Pin End is more upwind than the Boat End, or Yellow is late or slow at her entry, Blue can often cross upwind of Yellow (Upwind Cross). (See *Starboard Entry Tack & Follow*, pg. 15, for Upwind Cross figure.)

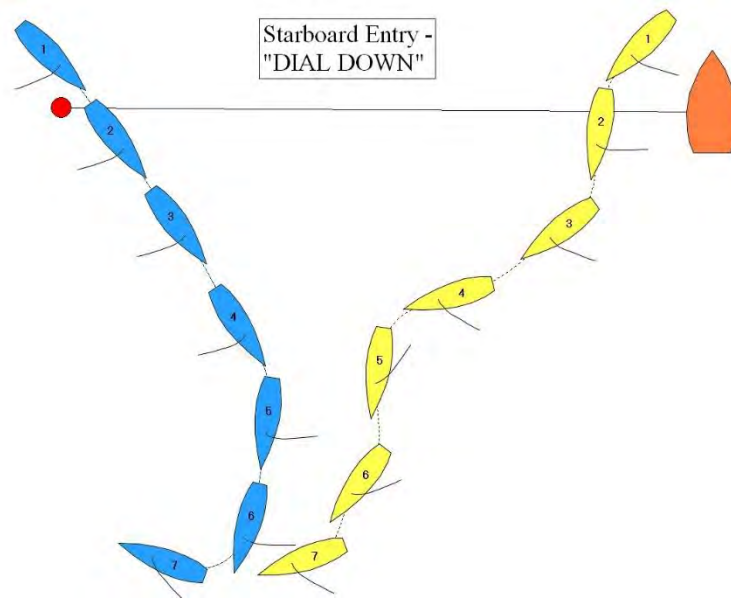
- a) When Yellow knows the Pin End is favored, she should enter (completely cross the starting line) and then immediately luff to close-hauled to try to prevent the Upwind Cross.
- b) If Blue can cross, Yellow should tack so that she is overlapped to leeward of Blue by several feet. If Yellow tacks too soon, Blue can sharply bear away and set up astern of her.

3) If Blue cannot cross Yellow upwind or downwind, there will be a Dial-Up or a Dial-Down.

The Dial-Down

Often Yellow can aim behind Blue's transom letting Blue think she has the Downwind Cross, and then bear away when it is too late for Blue to luff and keep clear of Yellow. Often Blue simply tries the Downwind Cross but can't make it. Either way, this turns into a Dial-Down.

- 1) Once Blue gybes, Yellow should immediately overtrim her mainsail and try to slow down so her bow is clear to turn up inside Blue if Blue tries to luff and tack.
- 2) Yellow is stronger when Blue is farther downwind.
- 3) When Blue luffs up on starboard tack, Yellow has two choices: luff and try to set up to windward of Blue and prevent her tack; or gybe and sail upwind on port tack, and then tack and use her starboard tack advantage to keep Blue pinned to the left (see diagram for Port Entry – Dial Down on page 8).



The Dial-Up

When Blue cannot cross Yellow upwind or downwind, Yellow is in control of Blue and wants to make her tack. She does this by slowly starting to luff and aim at Blue, which causes Blue to luff and turn away from Yellow, eventually tacking.

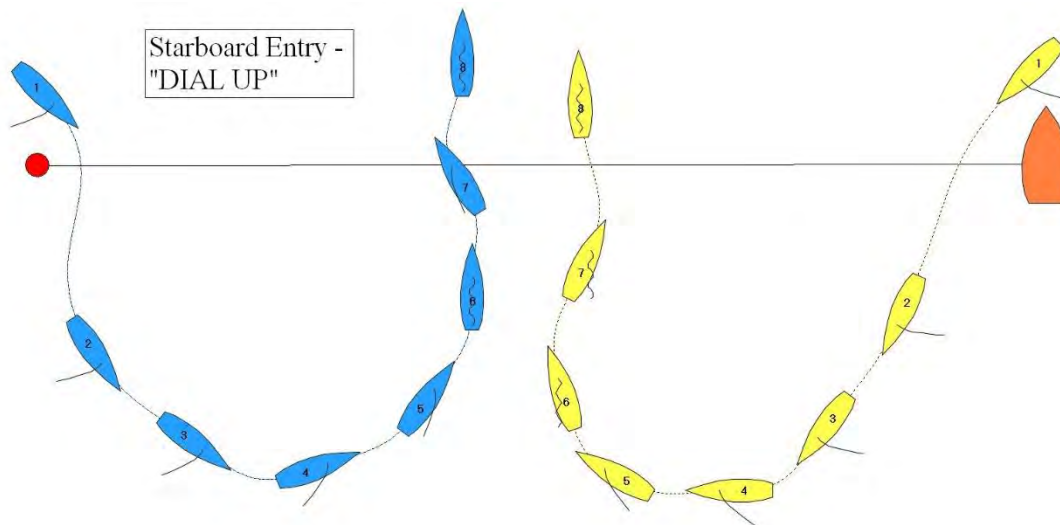
Yellow's Three Plays in the Dial-Up

There are three general plays for Yellow, and this should be decided before the Dial-Up occurs:

- 1) Do a Dial-Up and Stop
- 2) Do a "Fake Dial-Up" (best in over 12 knots)
- 3) Let Blue have the Upwind or Downwind Cross and tack or gybe right in behind them

Dial-Up and Stop

- 1) After entering and closing to within 4-5 lengths, Yellow initiates the Dial-Up by aiming at or behind Blue; this causes Blue to luff sharply and begin her tack to keep clear. Yellow can adjust her speed and course to get into her "controlling position."
- 2) If Yellow is faster or even in speed coming into the Dial-Up, she can slow by luffing her jib. She can further burn speed by passing head to wind and sailing momentarily on port tack. She can also burn speed by backing her mainsail to port once she is head to wind and/or by turning down and up sharply.



- 3) Yellow wants to end up with her bow at the mast of Blue, with about 1 length between the boats, and very similar in speed. This is an excellent “controlling position.” Yellow can live safely to windward, but Blue cannot tack and pass astern of Yellow. It is better to be too far aft than too far forward relative to Blue.
- 4) While Yellow is doing the Dial-Up, the Tactician on Yellow watches Blue carefully, noting if Blue gets down to a close-hauled course on starboard before coming back up to head to wind (in which case Blue has the right of way).
- 5) If Yellow is the right-of-way boat, Yellow maintains the “controlling position” as long as she wants to or can. Be sure the jib sheets are free to run as far as the clew wants to blow out to each side; any tension, even caused by friction, can “trim” the jib and cause the bow to move in a way not desired. Once slowed, trim the main in fairly tightly to help keep the bow into the wind.
- 6) When downspeed, the bow is controlled by pushing the jib to one side or the other (usually by a crew member on the bow facing aft), and by pushing the boom out (pushing the boom out to starboard causes the boat to pivot onto port tack). It is also controlled by active tiller movement (note “match race sculling” is “repeated movement of the helm to propel the boat forward.” Rule C2.16).

When to Exit...

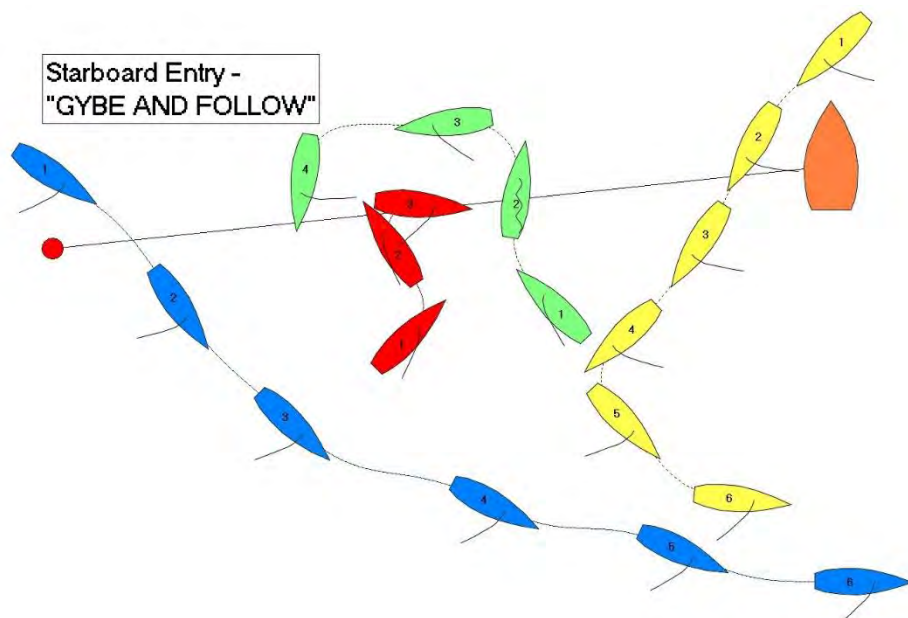
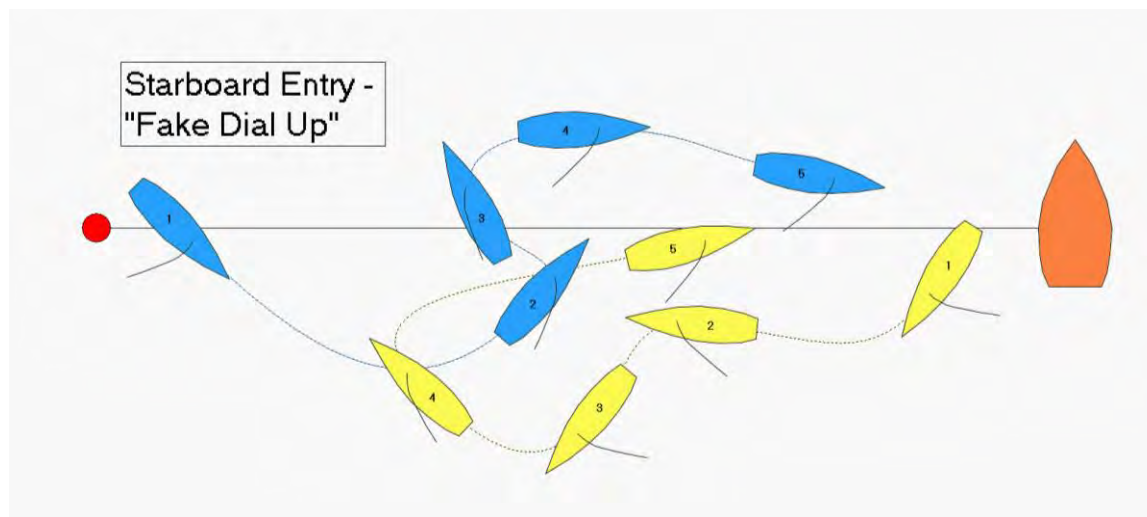
- 1) Yellow should exit the Dial-Up when:
 - a) she gets too close to Blue and at risk of getting a penalty
 - b) she is too far forward on Blue
 - c) Blue is slow or her bow is stuck on starboard tack
 - d) it is time to go to make her final approach to start

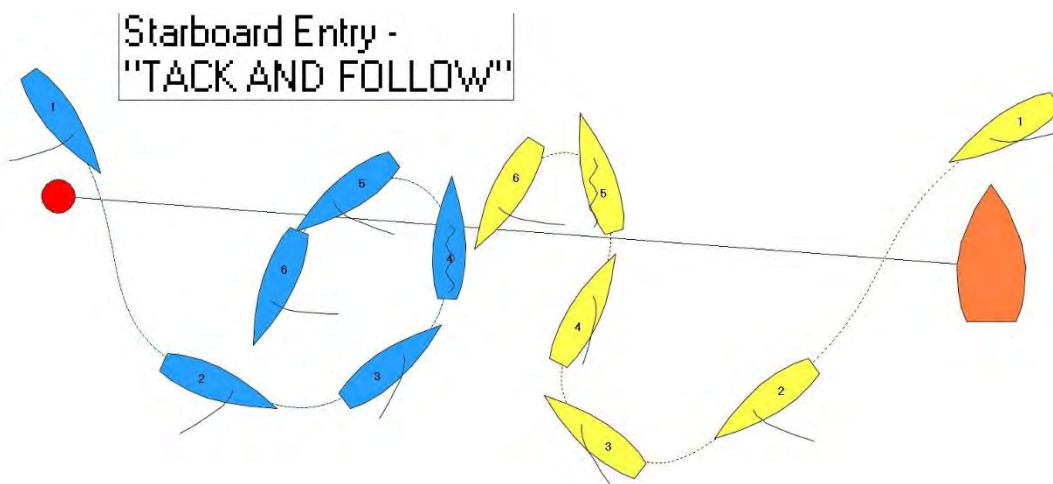
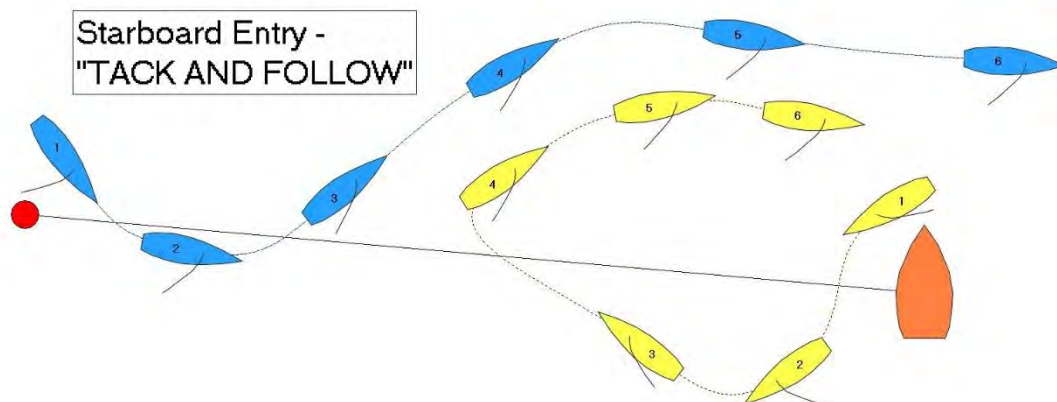
Standard Exits...

- 1) Yellow goes onto port tack and extends while building speed
- 2) Yellow goes onto starboard tack, builds speed briefly, then tacks to port tack
- 3) If Blue starts to tack astern of Yellow, Yellow builds speed on starboard tack and passes to windward of Blue and gybes in astern of her.
- 4) If Blue trims in and starts sailing upwind, Yellow should match her trim and try to prevent her from tacking. If Blue can tack, Yellow tacks to leeward with a slight overlap
- 5) If Blue trims in and tries to sail downwind and gybe, Yellow matches and tries to prevent the gybe. If Blue can gybe, Yellow gybes in astern of her.

The Fake Dial-Up (best in over 12 knots)

- 1) After entering and closing to within 5 lengths, Yellow initiates the Dial-Up by aiming at or above Blue; this causes Blue to luff sharply and begin her tack to keep clear. Yellow forces Blue to get to close-hauled on starboard, then bears away sharply, passing one length astern of Blue.
- 2) If Blue immediately tacks back to port, Yellow does the same, and ends up trailing Blue as closely as possible, or overlapped to leeward of Blue and going head to wind (best outcome).
- 3) If Blue remains on starboard, Yellow either luffs and takes a position astern of Blue, waiting for Blue's next move; or uses her speed to tack across Blue's transom and then tack back to windward of Blue.





Phase 2) The Middle Phase (from ~ 3:00 - 1:30 min. to start)

Once the Initial Meeting has occurred and the boats are on the same tack, usually with one behind the other, you are into the “Middle Phase.” In this phase, either one boat will be in Control of the other and the other is trying to Escape from being controlled, or neither boat will be in control in which case the boats will begin Circling. The Middle Phase ends with the transition to the Final Approach.

OBJECTIVE for Middle Phase

- 1) Get control of the other boat
- 2) Escape from being controlled by the other boat
- 3) Set up for Final Approach
 - a. Review First Choice (Right or Left of other boat?)
 - b. Do you want to Lead or Push?
 - c. Know time and distance back to the starting line
 - d. Know where you are relative to the laylines
- 4) Avoid getting a penalty on yourself

STRATEGIES & TACTICS for Middle Phase

The Playground

The “Playground” is the area to the right of the Committee Boat above the starboard-tack layline to the Committee Boat and below the extension of the starting line. This is where the Circling normally takes place, and is the best place to be if trying to Escape being controlled by the other boat.

Entering the Playground

- 1) There are two “entrances” to the Playground: below (to leeward of) the Committee Boat or above (to windward of) it. When the two boats are on port tack after the Initial Meeting, either the leading boat will be safe to bear away and gybe without fouling the other boat (usually a length or more ahead), or she will not be (usually less than a length ahead).
- 2) There is a special rule regarding gybing for match racing (rule C2.6, 13.2) which basically says that after the boom crosses centerline, the gybing boat has to keep clear until her mainsail has filled.
- 3) If the leading boat is worried that she cannot gybe without fouling, she is “under pressure.” If she is not worried, then she is “neutral.” If the leading boat is “neutral,” she should enter the Playground below the Committee Boat, pass the Boat layline by 2-3 lengths and gybe and make her first circle. If she is under pressure, she should enter above the Committee Boat, go 2-3 lengths MAX, and use “Houdini” (described under “Control / Escape”).
- 4) Regardless of which way the leading boat enters the Playground, it is usually safest for the trailing boat to follow the leading boat.

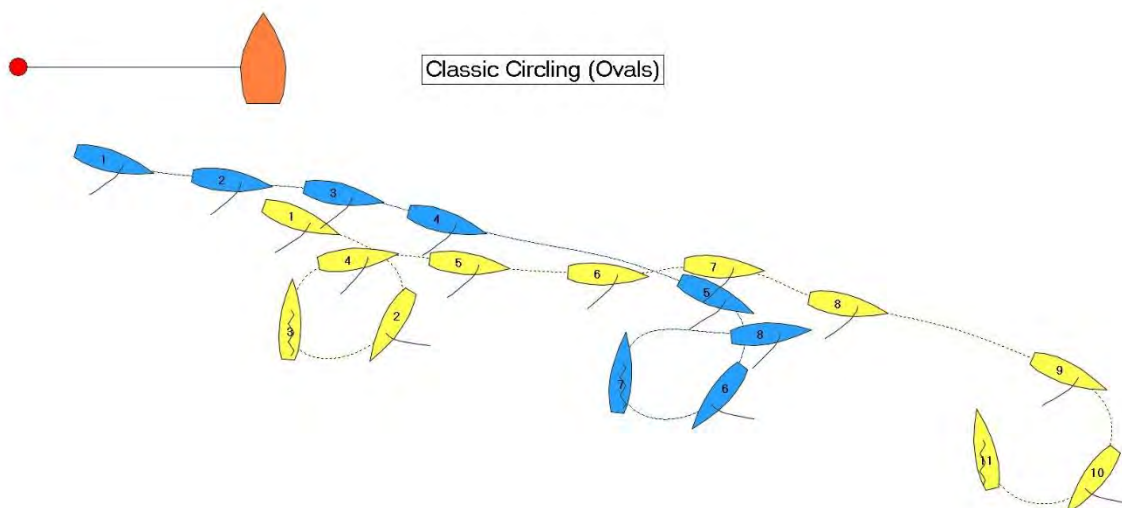
Boats are "neutral" as they enter the Playground, meaning Yellow can gybe with no risk of fouling.

(area below the extension of the starting line and above the layline to the Committee Boat)

"The Playground"

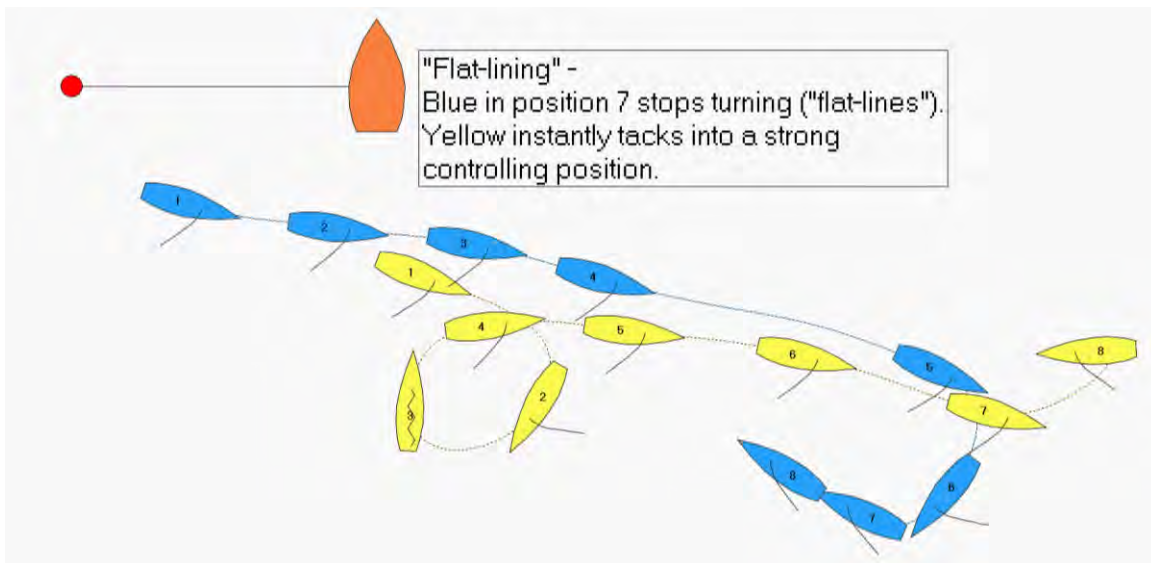
Circling

- 1) When leading on port, enter the Playground (sail past the Boat layline), bear away and gybe onto starboard and, in one continuous turn, smoothly tack to port to leeward or just astern of the trailing boat. Do not stop turning until you are on port tack! Be sure to use your sails and weight to optimize your turn.
- 2) Stop your turn on port tack on the best speed-build angle (near close-hauled in light air, beam reach in medium air, and broad reach in heavy air).
- 3) After the circling boat tacks, the new leading boat extends on port (when possible sailing a lower course than the trailing boat) until the distance between the boats stops increasing, then the leading boat can start their circle.
- 4) If done correctly, the "circles" are really "ovals" and the boats will both move towards the right.
- 5) The trailing boat can try to prevent the leading boat from gybing by bearing away towards the leading boat as the leading boat bears away to gybe:
 - a) If the leading boat does not complete her gybe (mainsail does not fill) before the trailing boat has to alter course to avoid – penalty on the gybing boat (rule C2.6, 13.2).
 - b) If the leading boat does complete her gybe (mainsail fills), the trailing boat luffs and passes astern of the gybing boat. If the gybing boat continues turning in her circle, the leading boat sails as fast and as low as possible, extends on port, and does her gybe. NOTE: the trailing boat should never gybe to windward of the gybing boat!



Flat-lining

If the gybing boat stops turning after her gybe, even for 2 seconds, and sails straight on starboard tack, that is called “flat-lining.” The trailing boat should immediately tack, with her jib backed. She will now be controlling the other boat in a very strong position.

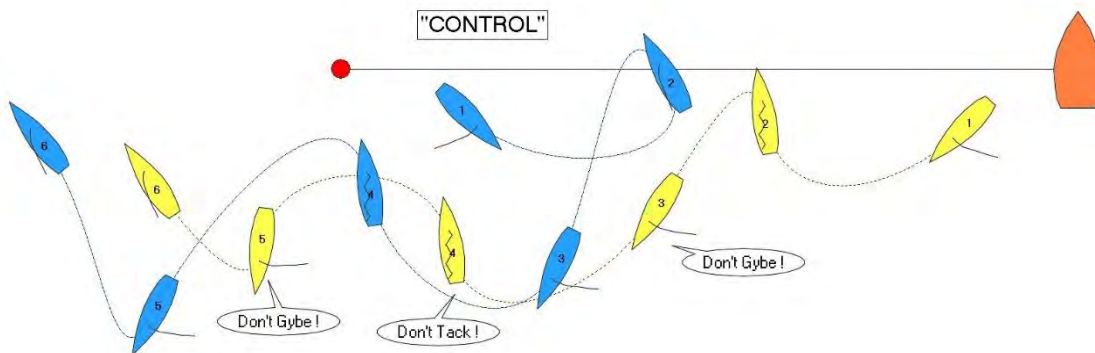


Control / Escape

When one boat is preventing the other boat from tacking or gybing, she is in “control” and the other boat is trying to “escape.” Here are some thoughts for each boat.

When you are the controlling boat

- 1) it is easier to control the other boats when both boats are on starboard tack.
- 2) keep about a half a length back and slightly below the boat ahead's centerline when below a beam reach, and above the boat ahead's centerline when above a beam reach.
- 3) never get your bow “locked” to windward of them, such that if you lose your bow you will slide down and hit them.
- 4) If you are on starboard tack and both get SLOW, tack away and roll into a gybe and come right back at your opponent. She will still be on starboard trying to build speed, OR will have just turned onto port tack. Aim right at her! The leader may try to back her main to escape; once her main is backed, you automatically tack away and roll into a gybe.

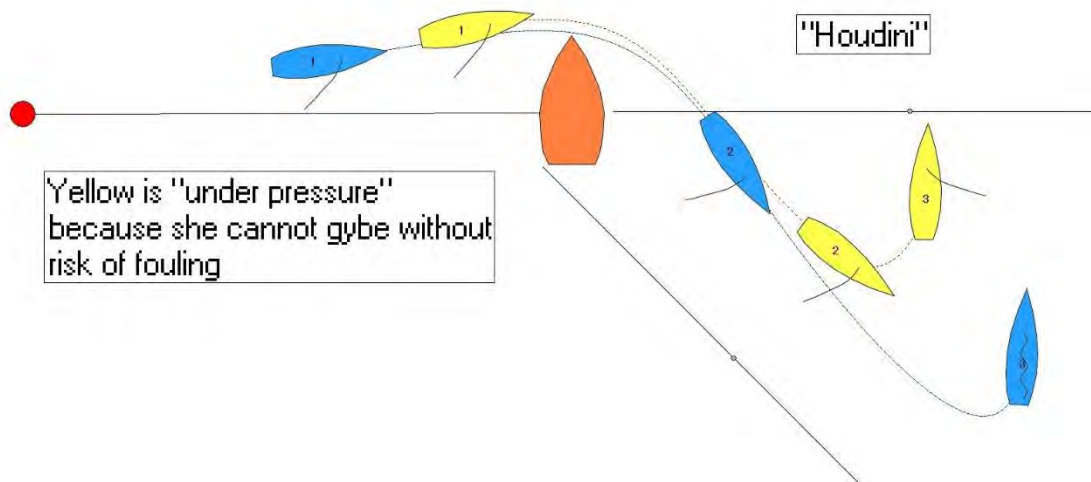


When you are trying to escape

- 1) If the boats are on port tack, it is generally easy for the boat ahead to escape. Just bear away to dead downwind, throw the boom over (giving the boat astern room to respond) and off you go.
- 2) if you can't get to a dead downwind course without fouling, use "Houdini."

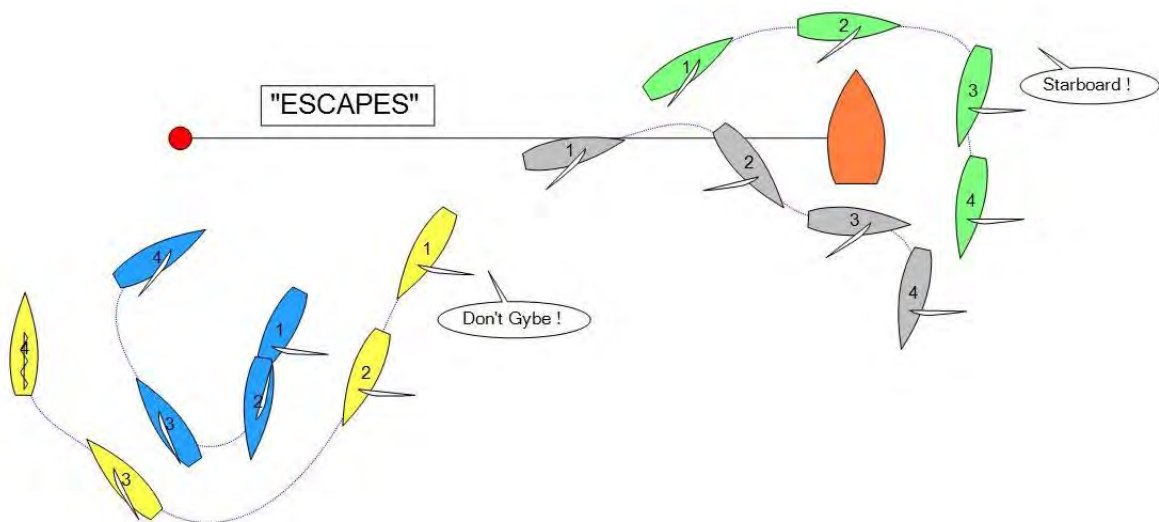
Houdini (named for the most famous escape artist)

- a) Works best when the boats are on port tack. Suddenly stop the boat by turning head to wind as fast as possible and backing your main for 3-5 seconds during and after your turn. Stay on port tack head to wind with your mainsail trimmed in tightly. React to whatever the other boat does.
- b) If the other boat overlaps you on one side, sail away towards the other side.
- c) Houdini works best 2-3 lengths to the right of the Committee Boat
- d) If forced to sail away on starboard tack and you still are being controlled, circle the Committee Boat clockwise, and react to whatever the other boat does.



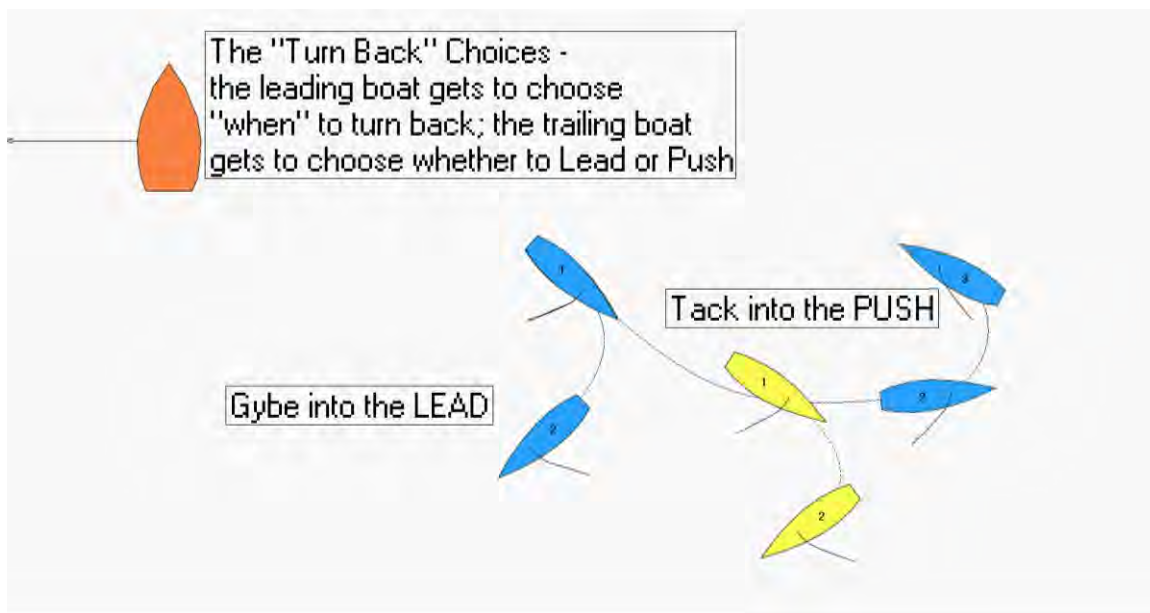
- 3) The problem is greater for the boat ahead when the boats are on starboard tack. Here are some thoughts to help escape when you are controlled on starboard:

- a) Often the best first move is to aggressively STOP! See what the trailer does, and go from there.
- b) Or WRIGGLE like mad...use lots of aggressive UPS and DOWNS to try to cause the trailing boat to make a mistake.
- c) Use your UPS and DOWNS to close the separation between the boats. The closer the trailer is, the harder it is for him to control you without getting overlapped with you. If he does overlap you, you can simply turn the other way and escape.
- d) Once the boats are close, go close-hauled and sail away from him; then tack across him. He'll generally tack to leeward or astern of you, but at least you are on port tack.
- e) Head for a nearby "pick" (a stationery object such as a race committee boat, umpire boat, spectator boat or another boat waiting to start) and go around it.



The Transition to the Final Approach

- 1) Provided neither boat has gained control over the other in the Middle Phase, the pre-start will boil down to the Final Approach, which is the Lead / Push back to the starting line.
- 2) Both boats will have to decide whether they want to “lead” back to the start (i.e., be ahead of their opponent on starboard tack) or “push” (i.e., be astern of their opponent); and whether they want to lead now or make one more circle. These are perhaps two of the most frequent – and most important and difficult – decisions you will have to make in the pre-start.
- 3) The boat leading away from the line on port tack gets the choice of when to make the final Turn Back, and the trailing boat gets to choose whether they want to Lead or Push.



Turning Back

- 1) The boat leading away from the line on port tack will make the decision when to Turn Back for the starting line (because the trailing boat is happy to keep going until both boats would be late coming back).
- 2) The Turn Back maneuver is a gybe and sail deep on starboard tack. That will be the signal to the other boat that the Circling is over and the transition to the Final Approach is beginning.
- 3) Below are some thoughts on “when” to make this maneuver.
- 4) If the leading boat gybes and the trailing boat gybes in front of the leading boat, the new leading boat is the Leader and the trailing boat becomes the Pusher.
- 5) If, when the leading boat gybes, the trailing boat sails past them and tacks and sets up to windward and astern of the leading boat, the leading boat is the Leader and the trailing boat is the Pusher. Now, the leading boat has to make a decision. If the Pusher starts sailing upwind, does the Leader go upwind also, or stay sailing deep? If the Leader stays down, the Pusher will be able to sail over the top of the Leader and become the new Leader. So if the Leader wants to remain the Leader, they have to sail up to stay in front of the Pusher.

Becoming the Leader or Pusher

- 1) The trailing boat generally has the choice of being the Leader or the Pusher.
- 2) If the trailing boat wants to be the Leader, then when the leading boat gybes, the trailing boat should gybe in front of her, trying to complete her gybe about one length clear ahead. *Gybe into the Lead*.
- 3) If the trailing boat wants to be the Pusher, then when the leading boat gybes, the trailing boat remains on port tack until her transom just passes the leading boat’s transom, and then she immediately tacks so that she is clear astern of the leading boat. *Tack into the Push*.
- 4) After tacking, the Pusher should immediately aim directly at the Committee Boat, which will usually force the Leader to come up higher in the Playground (“Push from Above”). Just before the Pusher becomes locked in to windward of the Leader, the Pusher bears away and threatens to hook the Leader, and the pushing game begins.

Some general guidelines and thoughts in deciding *when* to Turn Back, and whether to Lead or Push:

- 1) Keep constant feedback coming on how far in sailing time you are from the starting line. As you get more advanced, you can call the time back to the Boat End or Pin, depending on your starting strategy (time to the Boat if you want to start on your opponent’s right; time to the Pin when you want the left).
- 2) Keep a constant discussion going on your boat: lead back or circle??? If you know you will be late if you do another circle, LEAD BACK.
- 3) You can kill approximately 2X the amount of time you are from the line.
 - a) In other words, if you are 1 minute from the line, you can lead back at 2 minutes to go, because you can kill 2 times the 1 minute you are from the line.
- 4) You can kill even MORE time in light winds (under 7 knots); so in light air, LEAD BACK; but it is harder to kill time in heavy air, so in heavy air, PUSH BACK
- 5) LEADING BACK is the stronger, more controlling move; when in doubt, LEAD BACK. Leading back is also the harder move, so you need to practice it.
- 6) If you want to start to your opponent’s left, then LEAD BACK; if you want the right, then PUSH
- 7) When deciding *when* to Turn Back, if you want to LEAD BACK, you have to turn back early enough that the trailing boat will choose to PUSH, but not so early that you will find yourself leading back too early! If you want to PUSH, turn back slightly later than you would if you wanted to LEAD.

Phase 3) The Final Approach (from ~ 1:30 min. – 0:00 to start)

At some point in most pre-starts, both boats will be on starboard tack heading back towards the starting line. This typically occurs somewhere between 1:30 – 1:00 to start. One boat will be the LEADER and the other the PUSHER. This is the most critical phase of the pre-start, and the one that determines which boat gets the right, and which the left.

OBJECTIVE for Final Approach

- 1) Get your First Choice (start to right or left of the other boat)
(usually the Leader gets the left and the Pusher gets the right)
- 2) Be in Control of the Final Approach
 - a) If Pusher:
 - i. Push opponent back to the starting line and to the pin end too early
 - ii. Become overlapped to leeward of opponent (“hook them”) and force them to tack to port, tack with them and hold them out past the layline to the Committee Boat
 - iii. Block opponent away from your First Choice
 - b) If Leader:
 - i. Make opponent late to the starting line
 - ii. Get opponent overlapped to windward of you (“lock them in”) and force them to tack to port, tack with them and hold them out past the layline to the Committee Boat
 - iii. Block opponent away from your First Choice
- 3) Avoid being controlled by the other boat

STRATEGY & TACTICS for Final Approach

Lead/Push Terminology

Hook – when the Pusher gets her bow overlapped to leeward of the Leader (the Leader has been “hooked”)

Locked – when the Pusher gets her bow trapped to windward of the Leader and can’t bear away

3:00 o’clock line - a line directly abeam to windward (90 degrees to windward) of you (12:00 is straight ahead).

Scoop – when the Pusher sails over the top (windward side) of the Leader and becomes the Leader

Shift Right – when one boat becomes overlapped to the right side of the other; that boat has “shifted right”

Luff & Linger – when the windward boat sails just past head to wind and holds that position

Runway - assume you are on starboard tack in the middle of the line. The “runway” is the time and space between you and the Committee Boat end of the line; i.e., the maximum amount of time after you tack to port tack that you could kill and still start on port tack at the Committee Boat end

HOW TO LEAD / PUSH

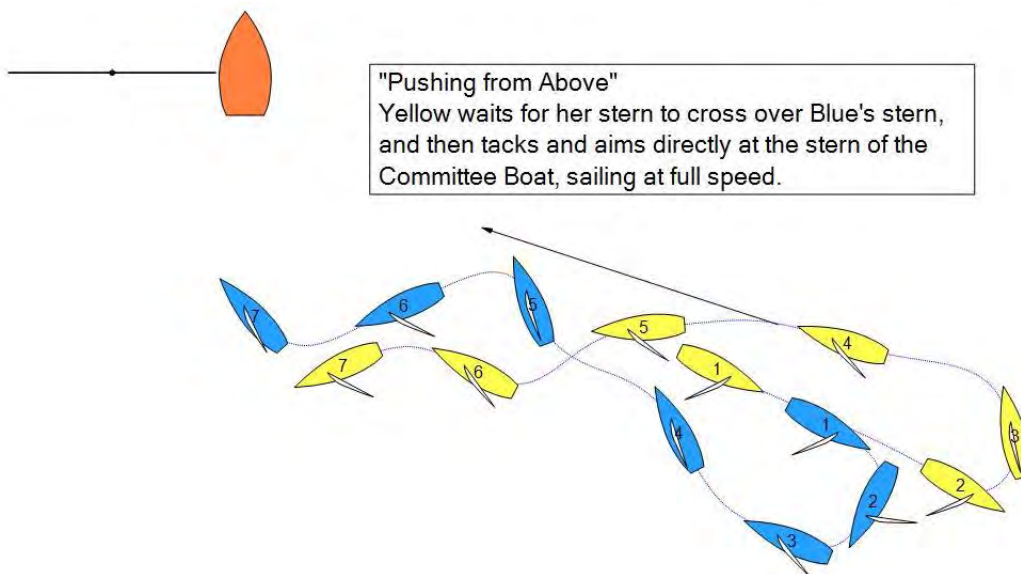
The essence of leading / pushing is precise boat speed control and handling. Practice slowing and accelerating at various speeds (often from 1:00 – 0:30 to go is done very downspeed), and using your sails (especially) your jib to help turn the boat when slow.

Leader...general thoughts

- 1) get game LOW...you want to be as close-hauled as possible when you are leading back
- 2) get game SLOW – late is great. Do it with STEERING, not SLOWING (i.e., sail a longer distance at a higher speed – keep momentum in your keel)
- 3) keep opponent within $\frac{1}{4}$ of a boat length if possible, but with no risk of being hooked
- 4) when Pusher luffs (turns up), be slow to match that turn; when the Pusher bears away (turns down), match that turn exactly (skipper of the Leader needs to turn around and face the bow of the Pusher)
- 5) never let your opponent HOOK you (overlap you to leeward) unless you WANT them to
- 6) if opponent overlaps you to windward, keep them behind “the 3:00 o’clock line”
- 7) if the Pusher gets locked to windward, luff up to head to wind
- 8) never sail closer than about 1 length to the layline to the Pin end.

Pusher...general thoughts

- 1) keep game HIGH – “Push from Above” (that means that the Pusher should sail to windward of the leader on a close-hauled course, but far enough to windward so their bow is not stuck or “locked” to windward!)
- 2) if the Leader lets the Pusher get past “the 3:00 line”, the Pusher can consider “scooping” the Leader (sailing over the top and becoming the Leader). Do this ONLY if you want to LEAD!
- 3) push aggressively on a reaching course, using lots of “ups” and “downs” to make the Leader maneuver
- 4) try to “hook” the Leader (overlap them to leeward); if you do, slowly luff until they have to tack away onto port
- 5) if you make them tack, tack with them immediately unless they have “runway” to start OR you are extremely slow such that they’ll sail away and get back onto starboard before you can get up to speed on port
- 6) if you aren’t going to “hook” them, then you’ll “shift right” on them at some point. Do it when the Leader is in a “down” turn; then take a BIG BITE to windward (big luff) and open the separation to windward.



You need to hear constantly:

- 1) Time to one end of the starting line or the other, depending on which side of your opponent you want to start
- 2) Time to start
- 3) Time to burn (difference between the time to start and the time to the starting line)
- 4) Location and time relative to starting line, laylines and “runway”

Rules When Hooking and Luffing

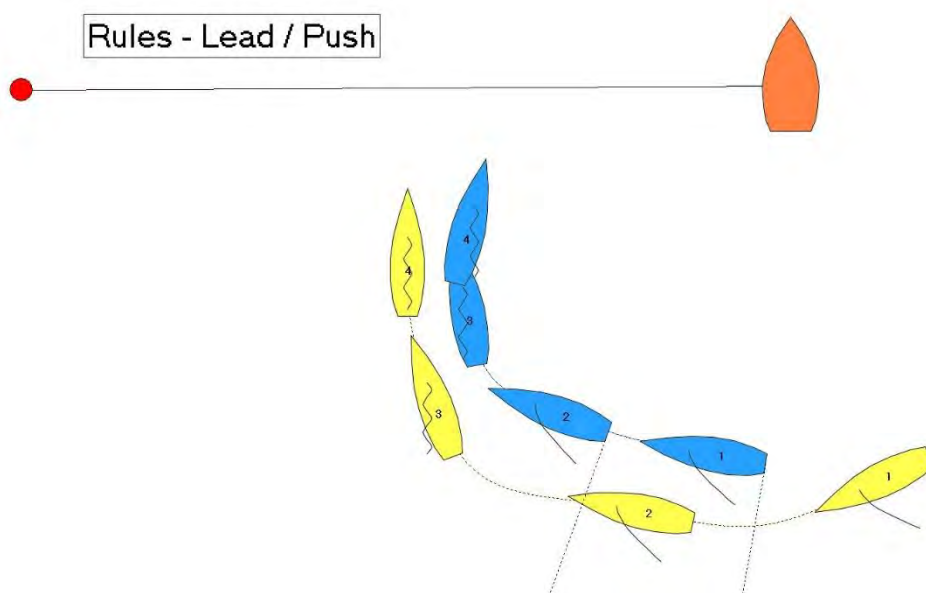
At position 1...Yellow is clear astern of Blue and must keep clear, under rule 12 (clear ahead – clear astern).

At position 2, the boats are overlapped. Yellow is the leeward boat and Blue must keep clear, under rule 11 (windward – leeward). Because Yellow established the overlap, her actions gave her the right of way, so she must initially give Blue "room" (space and time) to keep clear, under rule 15 (acquiring right-of-way).

From position 2 to 4...Yellow is changing course, so she must give Blue "room" to keep clear for as long as she is changing course, under rule 16.1 (changing course).

If Blue reacts immediately yet there is contact shortly after position 2, Yellow is likely to be penalized. Yellow should give Blue's stern plenty of room to swing when Blue luffs.

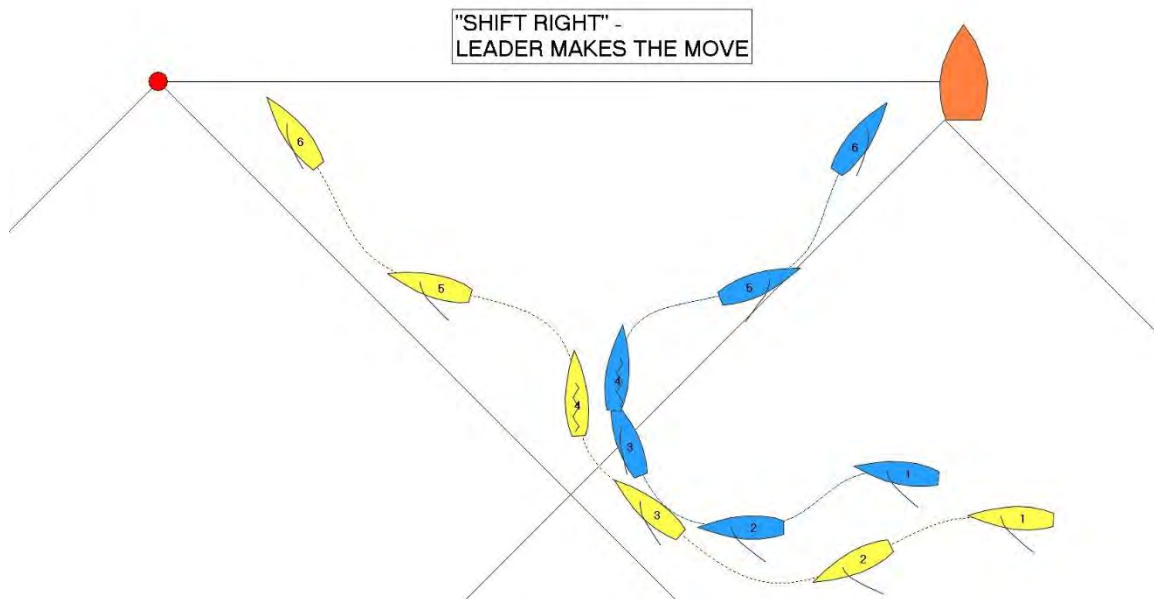
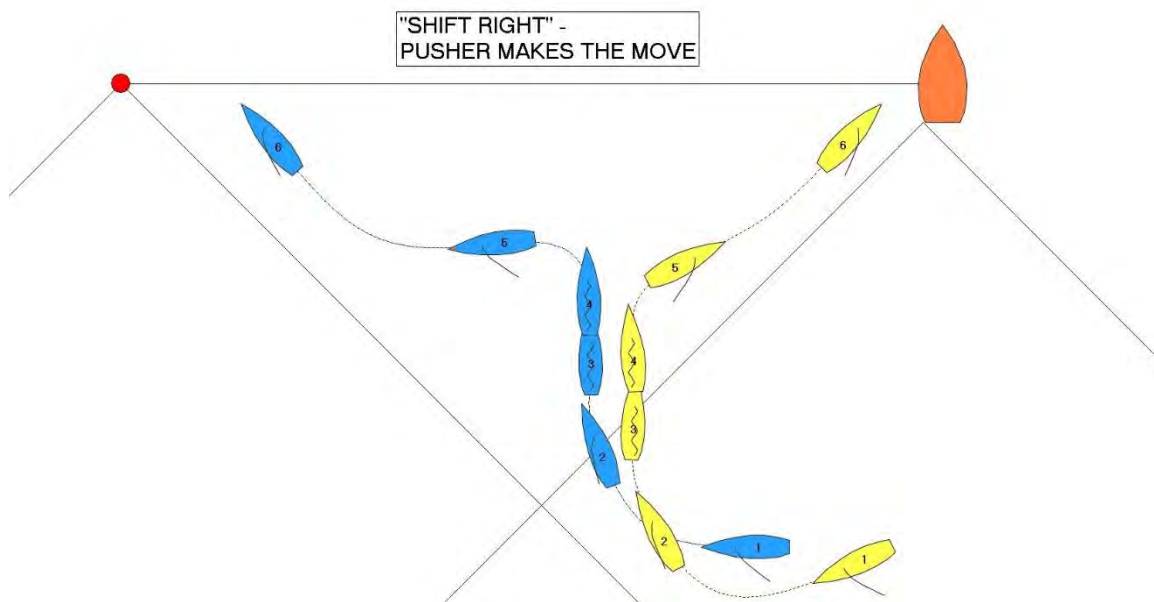
Otherwise Blue is at risk of penalty if she is not continually changing course away from Yellow from position 2 on.



“SHIFT RIGHT”

The Leader: often you are LEADING BACK, but want to start to the right of your opponent. At some point after you have passed the port-tack layline to the Committee Boat end of the starting line, you will want to LET your opponent “hook” you (overlap you to leeward). This is called “shifting right” (i.e., getting to the right side of your opponent). The moment you are hooked, you need to immediately turn past head to wind and then stay there (“Luff & Linger”). You will do this when you are sure you have enough “runway” to be able to start on port tack. You will also do this when you are sure you are both late to the starting line. It generally happens between a third and a half of the way down the starting line.

The Pusher: when you are PUSHING BACK and want the right, continue to threaten to hook the Leader until they are past the port layline to the Committee Boat; then overlap them to their windward side (get “locked”). When they luff, sail past head to wind (Luff & linger) until you can bear away and start on port tack.



The Four Starting Positions (see page 2)

Close to Leeward – This happens when the Pusher is close to the Leader, and the boats are on time or slightly late for the start; or when the Leader is on time for the right-hand third of the starting line.

Windward with a Gap – This happens when the Pusher can take a big bite to windward (big luff) while the Leader's bow is down. It also happens when the Leader gets "hooked" and tacks to port tack, and the Pusher immediately tacks and follows. The Leader often then gybes immediately so as not to get controlled, and the Pusher extends on port tack and tacks up to windward of the Leader.

Split Start – This happens when the "shift right" happens more than a third of the way down the starting line, and the boat on the right tacks to port with less than about 15 seconds to start.

Crush! – This happens when the Pusher is astern of the Leader trying to push, and the Leader is late to the starting line; or when the Leader is above the Committee Boat layline and the Pusher is locked to windward of her.

Chapter 2...The Upwind Leg

The typical match race course has four legs. Usually legs 1 and 3 are upwind legs. Here are some strategies and tactics for the upwind legs.

Information it is useful to know before beginning the Upwind Leg:

- 1) what is the angle of the wind to the rhumbline (the straight line between the leeward and windward marks)
- 2) is the wind direction steady, oscillating, persistently shifting one way, or randomly shifty
- 3) is the wind strength steady or changing up and down
- 4) is there more pressure on one side of the leg than the other
- 5) what is the current situation
- 6) what color mark are you racing to

OBJECTIVES FOR THE UPWIND LEGS

If ahead:

- 1) stay ahead of opponent; try to grow your lead
- 2) force them to the less favorable side
- 3) force them to the closer layline
- 4) minimize distance sailed by using shifts and better wind pressure
- 5) be in position to give them bad air, or force them to make extra tacks, near windward mark

If behind:

- 1) minimize loss; try to round windward mark within two (2) lengths of leader
- 2) minimize distance sailed by using shifts and better wind pressure
- 3) maximize clear air into windward mark
- 4) try to pass opponent if possible

If relatively even (i.e., one boat has a piece of the other):

- 1) be in position to "lee-bow" opponent
- 2) when in doubt, defend, or take, the right-hand side of the leg
- 3) minimize distance sailed by using shifts and better wind pressure

STRATEGY THOUGHTS FOR THE LEADER:

- 1) if you can pin your opponent to one layline or the other, do so
- 2) if you aren't sure which side of the beat is favored, be to the right of your opponent until you are sure (because the starboard-tack boat has the right-of-way and therefore is much stronger)
- 3) it is difficult to be on your opponent's wind on both tacks; tack on their wind on the tack you want to extend on, forcing them to tack away to the side you think is less favorable
- 4) as you get near a layline, let your opponent get their bow out so they reach the layline first and must either overstand or tack, which lets you tack right on their air
- 5) try to approach mark on port tack for easiest spinnaker set and exit from mark

STRATEGY THOUGHTS FOR THE TRAILER:

- 1) keep dragging the game back to the middle of the upwind leg; don't get to a layline before your opponent does
- 2) get out of phase with your opponent and in phase with the wind.
- 3) as you are nearing a layline, after a tack, get up to speed as quickly as possible and tack back before the layline
- 4) on the first leg, avoid starting a tacking duel; minimize loss and attack on the downwind leg! If you are within a couple of lengths at the first mark, you can catch up or pass on the run. On the second beat, you need to be more aggressive if you are more than a couple lengths behind, because it is harder to pass on the run to the finish.

- 5) if you will be following the leader into the mark, try to force the leader to come in on the starboard layline (last chance to use your starboard advantage when they tack, and forces them to do a tack set)

TACTICAL THOUGHTS FOR THE LEADER:

If you are to right of opponent and both on starboard tack

- 1) work hard to maintain separation so you are not forced to tack away (set boat up for height)
- 2) your goal is to arrive at port-tack layline without being forced to tack away (but if you even think that you are about to drop back, tack away and save your starboard advantage for later use)
- 3) As you near layline, begin to open gauge between the boats and let your opponent pull forward, i.e., sail higher and slower
- 4) Overstand slightly before tacking (it is better to tack too late than too early)
- 5) Sail high after tacking to try to drop the opponent into your bad wake and air and extend lead

NOTE: If your opponent tacks first, tack directly on their wind or on their lee-bow, defending the right hard.

If you tack on them and they tack back to starboard tack, go to max speed build (no more!) and tack back with them. The greater the separation between the boats, the easier it is for your opponent to get out of phase with you.

If you are to right of opponent and both on port tack

- 1) It is a speed race to the starboard-tack layline. If you cannot force your opponent to tack away before you reach the layline, then here are some thoughts:
 - a) if you do not have a piece of your opponent but are within a couple lengths:
 - in light to medium air, do not tack; keep the race close and try to pass them downwind
 - in medium to heavy air, you can tack and see what they do; if they tack on you, you can tack right back. You will lose a little because of the two quick tacks, but you will be out of phase with the chance to gain on the right.
 - b) if your opponent can lee-bow you after you tack, tack before you are within 4-5 lengths of the starboard layline, force them to lee-bow you, and keep that game going
 - c) if your opponent can't lee-bow you, go all the way to the starboard layline and tack.

If you are to right of opponent and on opposite tacks

- 1) Minimize the separation between the boats.
- 2) Sail on the lifted tack and watch the puffs.
- 3) When in doubt, defend the right.

If it is a close race, go to the nearest layline and prepare to begin the downwind leg one right ahead of the other.

TACTICAL THOUGHTS FOR THE TRAILER:

If you are on the same tack and in clear air

- 1) Never let your opponent hit your air (watch your shroud telltales); if necessary, bear away to keep air clear.
- 2) as you approach a layline, try to close gauge and let your opponent move as far forward as possible without hitting your wind (watch your shroud telltales); i.e., sail higher and slower.
- 3) When your opponent tacks for the mark, do not tack simultaneously if they are on or just over the layline; extend half a length or so. Sail high after tack until you locate opponent. Do NOT allow yourself to drop into their wake / bad air, or get pinned to windward of them! If they are two or more over layline, tack simultaneously with them.

If you are on opposite tacks

- 1) try to get to your opponent's right, all other things being equal, to get the starboard-tack advantage.

NOTE: if you are on port tack and your opponent is crossing ahead of you, momentarily pinch. This often delays the tack of your opponent enough so that when they tack you can foot off and get your wind AHEAD of their bow. This is especially useful if you are left of center on the leg.

NOTE: if your opponent tacks on your wind, extend a couple of seconds just into their wind shadow before tacking. This is soon enough that they won't be able to tack back with you and get in phase with you, but it allows you to tack with less pressure on your rig.

Upwind Plays – Starboard Tack Boat

Lee-Bow

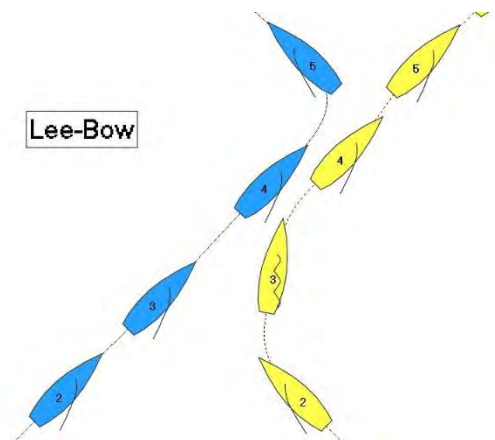
OBJECTIVE: Tack close to leeward of opponent, so that they cannot stay there for long and will be forced to tack away.

MANEUVER: Tack so that the tack is completed close to leeward of opponent. Will need quick acceleration coming out of tack.

RULES: The boat that is tacking must keep clear of the other boat from the time she passes head to wind until she is on a close-hauled course (rule C2.6, 13.1). She then gains the right of way as a leeward boat (rule 11) but must initially give the other boat room to keep clear (rule 15).

COACHING POINTS:

- when tacking from starboard tack to port tack, do it sooner than when tacking from port to starboard tack. Note that in match racing there is no rule 17 (sailing above proper course; rule C2.8)), which means that if the starboard-tack boat (S) is going slowly after her tack and the port-tack boat (P) can overlap her to leeward, P has luffing rights and can luff up to head to wind, giving S room to keep clear under rule 16.1 (changing course)
- put your bow down briefly after the tack to build speed more quickly; then switch into “high point” mode to force opponent to tack away if needed
- the boat being lee-bowed should put their bow down slightly coming into the situation to build speed; and then decide immediately whether to tack away immediately (usually the best option), or to shoot above close-hauled during the tack to gain gauge and try to live there for a longer time, or to try and hook the tacking boat if on port tack.



Dial Down

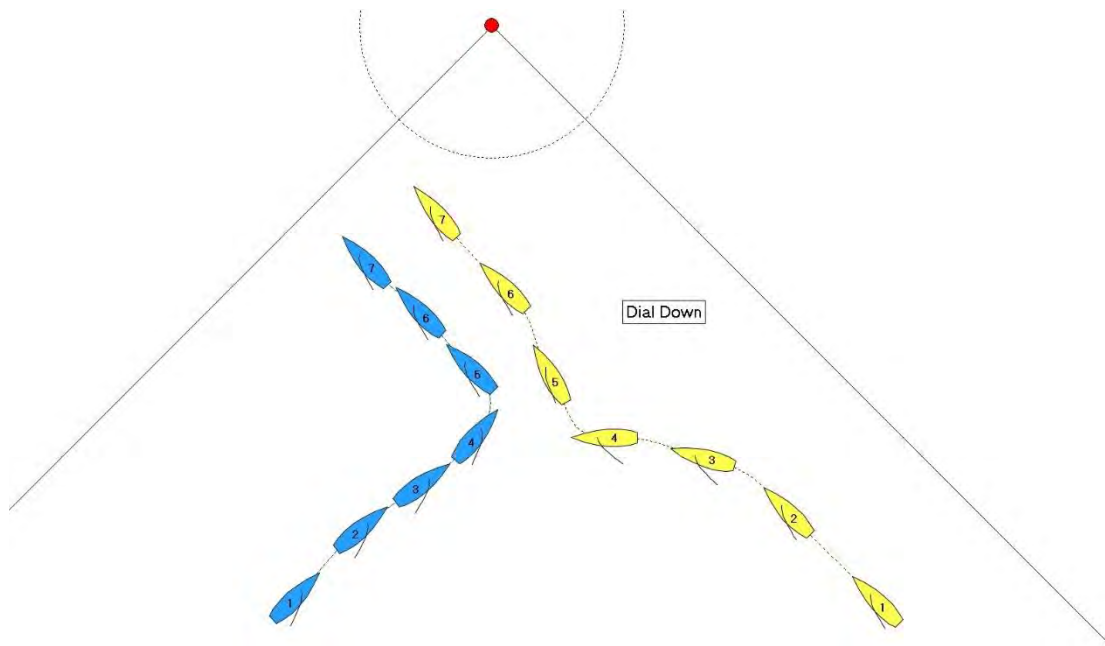
OBJECTIVE: Force the port-tack boat to tack, and then tack away to defend the right and keep the starboard advantage, or pin the opponent past the port-tack layline.

MANEUVER: Starboard needs to bear away into a position where Port can no longer bear away and pass astern. This is more typical when Port is slightly ahead of Starboard. The key is for Starboard to get her bow below Port's. Starboard cannot bear away to a course more than 90 degrees from the true wind if it immediately affects Port.

RULES: As Port approaches Starboard, Port must keep clear under rule 10 (port/starboard). When Starboard changes course, she must give Port room to keep clear (rule 16.1). Starboard cannot bear away to a downwind course, i.e., to a course more than 90 degrees from the true wind (rule C7.2(a)(2)) and Match Racing Call Book Calls D5 and D6).

COACHING POINTS:

- 1) If Port tries to pass astern of Starboard, Starboard must be sure to begin heading back up so she is near close-hauled when Port arrives at her transom, giving her the option to Tack & Pin (Soft Slam).
- 2) Generally the Dial Down is a weak move for Starboard, especially in boats under 30 feet. If Port succeeds in ducking Starboard with no penalty, Port gets the right and the powerful starboard tack advantage.



Tack & Pin (the “Soft Slam”)

OBJECTIVE: For Starboard to tack just to windward of Port and control her, or prevent her from tacking for a short time.

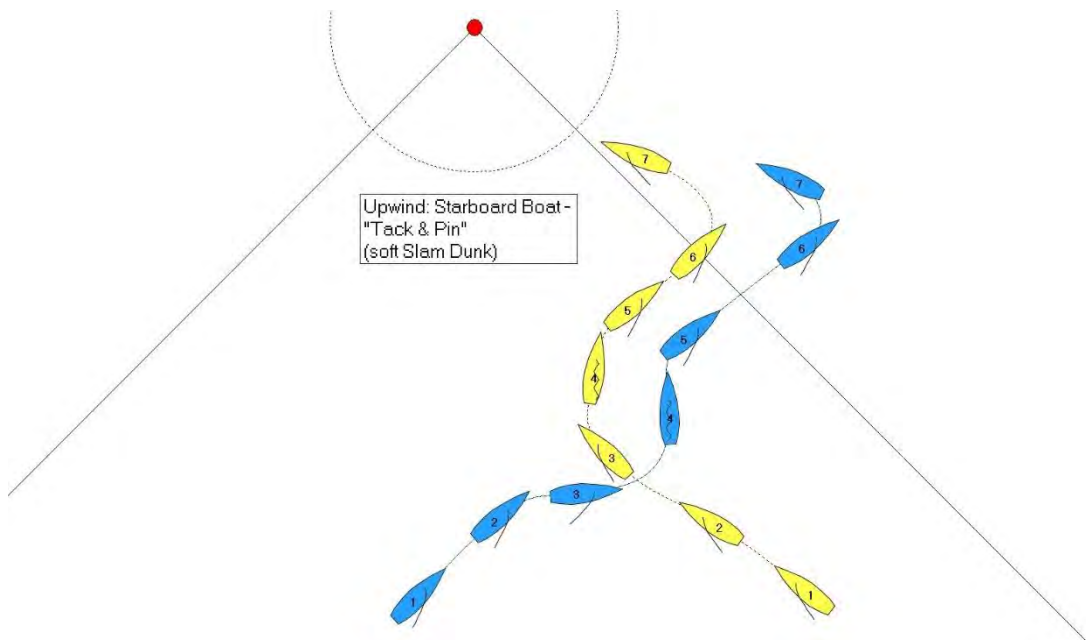
MANEUVER: Starboard crosses Port and then tacks two seconds later (count to two). Typically Port will luff and shoot up towards Starboard; Starboard must keep clear. Often the boats will remain near head to wind for a while. If Starboard tacks in the correct place, Port will be far enough away from Starboard so she cannot reach Starboard when she luffs. If Port tacks, she will be too close to assert her right of way (rule 15, acquiring right of way) and will usually pass astern of Starboard.

RULES: Port must keep clear of Starboard under rule 10 (port/starboard). Starboard remains the right-of-way boat until she passes head to wind. When Starboard passes head to wind, Port instantly becomes the right-of-way boat (rule C2.6, 13.1). Because Starboard gave Port the right of way, Port does not need to give Starboard room to keep clear under rule 15. When Starboard reaches a close-hauled course, she must continue to keep clear under rule 11 (windward/leeward).

If Port changes course after Starboard has passed head to wind, she needs to give Starboard room to keep clear under rule 16.1. However, as rule 17 does not apply in match racing (rule C2.8), Port can sail above her proper course, even if she becomes overlapped from clear astern after Starboard completes her tack.

COACHING POINTS:

- 1) Starboard should count to two after Port’s bow reaches her transom, then tack.
- 2) Starboard’s helmsperson should turn facing aft in the tack so she can watch Port’s bow the entire time.
- 3) Both boats must be careful to avoid a collision, as both boats are at risk of penalty.



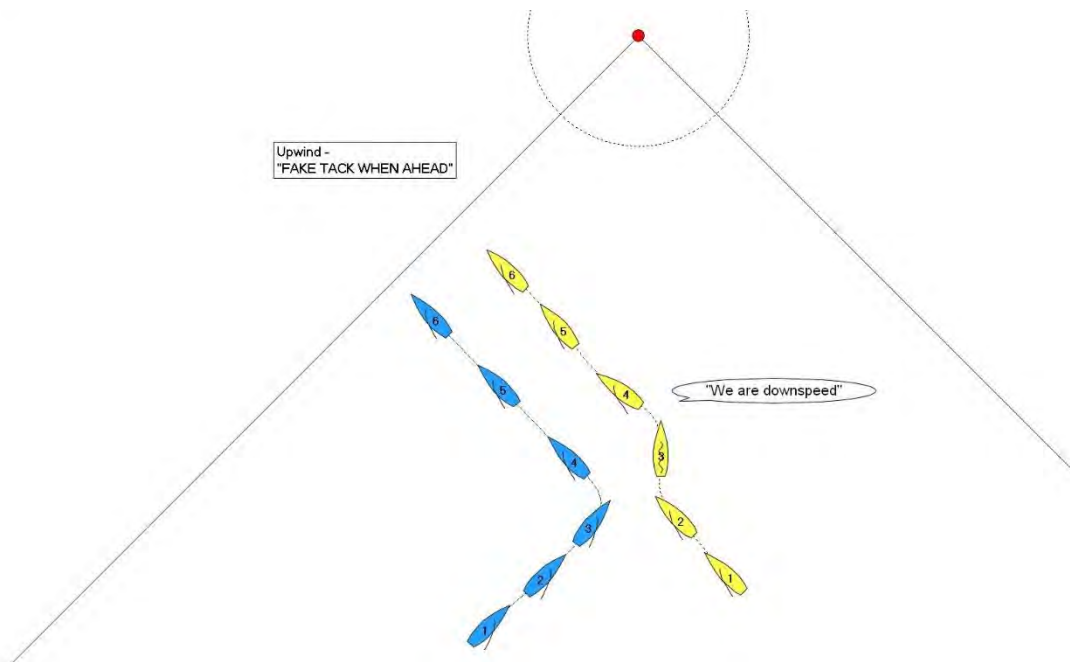
Fake Tack When Ahead

OBJECTIVE - to get in phase with trailing boat.

MANEUVER: Cross and tack on opponent. If opponent tacks immediately before you get too far past head to wind, reverse course and sail in phase with opponent for as long as needed. This is a likely move near a layline.

COACHING POINTS:

- 1) This move works well when the trailing boat is seen to be quick to tack away when being tacked on
- 2) When tacking on your opponent, do a slow smooth turn and see if they tack away soon enough to allow you to stop your tack and get in phase with them (not much farther than just past head to wind).
- 3) If you stop your tack, and your opponent stops their tack, simply stay head to wind directly in front of them, watching them, and matching whatever they do.



Fake Tack When Behind

OBJECTIVE – to get out of phase with leading boat

MANEUVER – Begin to tack and watch the leading boat. If she tacks simultaneously, when she passes head to wind return to close-hauled on original tack. This works well if starting behind opponent at the Committee Boat or Pin, or when rounding the leeward mark directly behind opponent.

Upwind Plays – Port Tack Boat

The Duck

OBJECTIVE – to get to the right of your opponent and gain the powerful starboard tack advantage

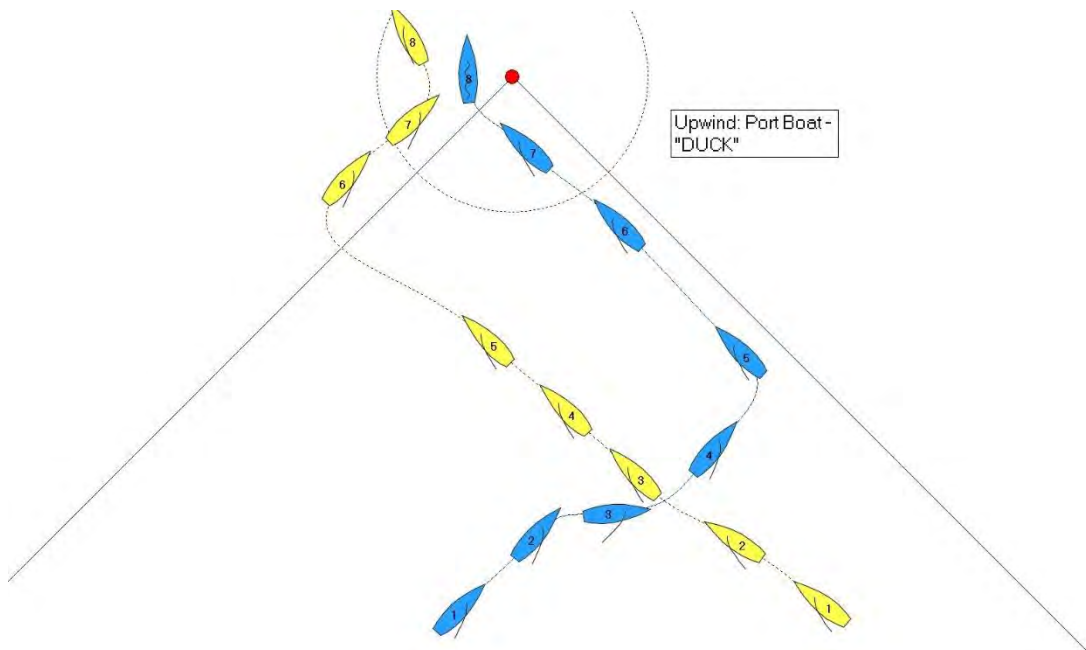
MANEUVER – Port bears away when a length or two from Starboard. Her goal is to be turning back up towards close-hauled as she arrives at Starboard's transom.

COACHING POINTS:

- 1) Starboard can only bear away to 90 degrees from the true wind to dial P down. (MR CALL D5 and D6); if S dials P down, P should continue ducking S because P can bear away more than 90 degrees.
- 2) If P plans on tacking back to starboard, P should do an extra big duck early so as not to get pinned under S if she tries to Tack & Pin P.
- 3) If P wants to try to break through to S's right, P ducks a couple lengths away and then begins a slow luff "holding land" on S's skipper (a point about 2/3rds of the way back along S's port side). If S has borne away to hunt, S will have to luff up at some point. P luffs immediately "holding land" on S's skipper and passes S's stern as close as possible.
- 4) If S tacks, P keeps bow down for speed until wind is ahead of S's bow; then P sails in high mode up under S and forces S to tack away. P extends one length and tacks. OR, P luffs aggressively up to head to wind, trying to slow S or force her to tack back to starboard. When P changes course, she must give S room to keep clear (rule 16.1).

NOTE: If P passes astern of S and S does not tack, P extends two lengths and tacks. That prevents S from being up to speed when S tacks to port tack and meets P (now on starboard tack).

NOTE: the elimination of rule 17 (C2.8) makes it hard for S to "slam dunk." P can sail ABOVE her proper course at any time, even if she becomes overlapped on S after S completes her tack; i.e., P can luff up to head to wind as long as she gives S room to avoid her (rule 16.1).



Late Duck

OBJECTIVE: For Port to put Starboard in a position where Port can duck Starboard and it is too late for Starboard to lee-bow Port.

MANEUVER: Port holds course, looking as if she is going to lee-bow Starboard. At the last moment, Port bears away sharply and passes astern of Starboard.

COACHING POINTS:

- 1) the crew on Port should do what they would normally do in preparation for a tack
- 2) Port's helmsperson should aim for a point roughly 1/3rd of the way back along Starboard's port side

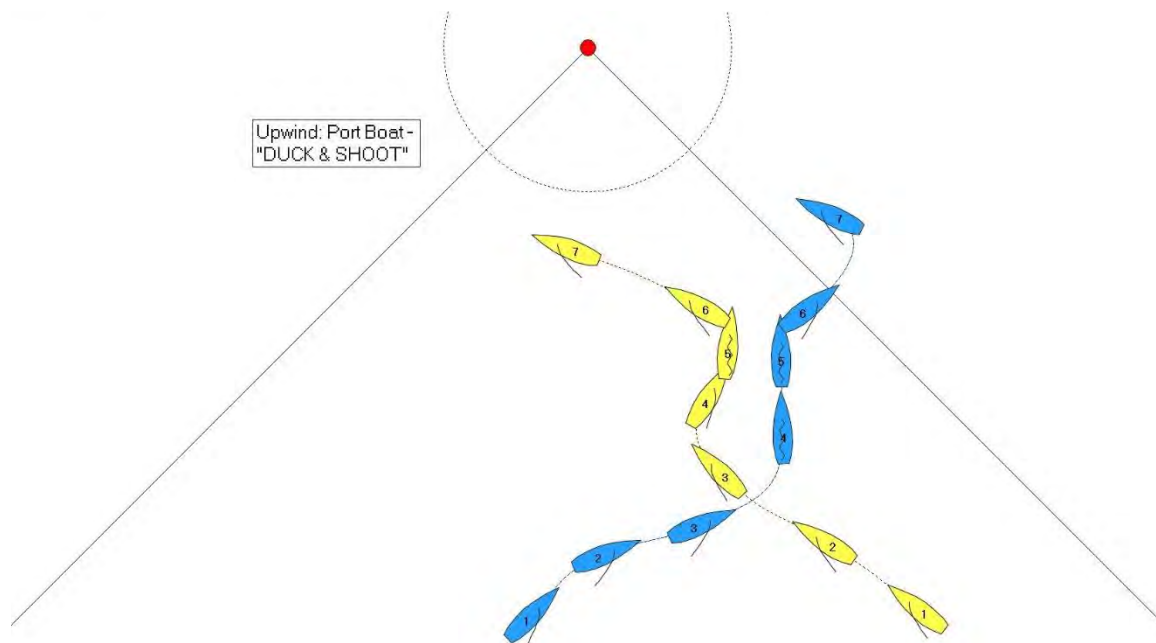
Duck and Shoot

OBJECTIVE: For Port to counter Starboard's Tack & Pin, and force Starboard back onto starboard tack, giving Port the right and the starboard tack advantage.

MANEUVER: When Starboard crosses Port and then tacks almost immediately, Port luffs and shoots up towards Starboard. Port should be coming up to Starboard's transom as she is completing her duck. When she luffs, it is critical that Port not go past head to wind. Starboard must keep clear. Often the boats will remain near head to wind for a while. Eventually Starboard will go back to starboard tack. At that moment Port bears away and builds speed on port tack.

RULES: Port must keep clear of Starboard under rule 10 (port/starboard). Starboard remains the right-of-way boat until she passes head to wind. When Starboard passes head to wind, Port instantly becomes the right-of-way boat (rule C2.6, 13.1). Because Starboard gave Port the right of way, Port does not need to give Starboard room to keep clear under rule 15. When Starboard reaches a close-hauled course, she must continue to keep clear under rule 11 (windward/leeward).

After Starboard passes head to wind, when Port luffs, she needs to give Starboard room to keep clear under rule 16.1. However, as rule 17 does not apply in match racing (rule C2.8), Port can sail above her proper course, even if she becomes overlapped from clear astern after Starboard completes her tack.



UPWIND PLAYS – COVERING MODES

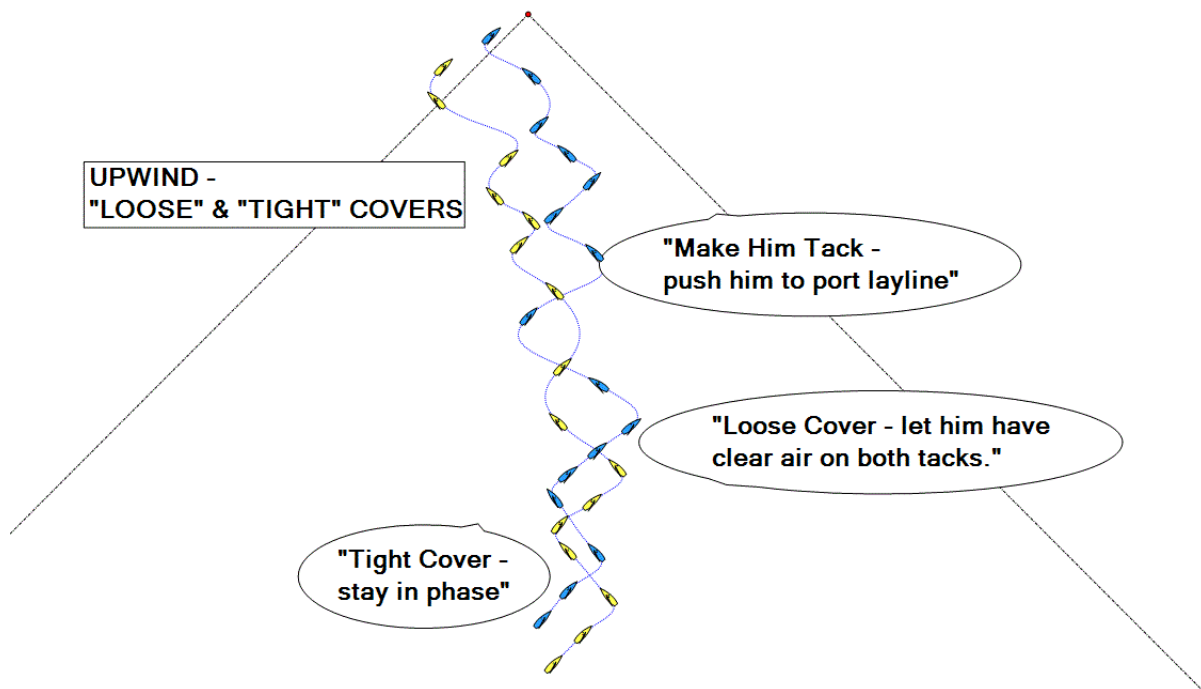
"LOOSE" & "TIGHT" COVERS

OBJECTIVE: To stay ahead of opponent. In the "tight" cover, you give your opponent no clear air on both tacks. In the "loose" cover, you give your opponent clear air on one or both tacks.

MANEUVER:

In the "tight" cover, the boat is turned simultaneously with the trailing boat. Be ready for fake tacks, and prolonged sailing head to wind. Typically the boats will become downspeed.

In the "loose" cover, tack where your opponent has clear air and is more likely to continue sailing in that direction. This is typically done when the leader is well ahead in the race and wants to stay in the same general area on the race course as the trailing boat; or when the leading boat wants to force the trailing boat to sail on one tack and not the other.



Chapter 3...The Windward Mark

The windward marks provide many opportunities to pass, and be passed by, your opponent. Also, many penalties are earned at the windward mark. Here are some strategies and tactics when approaching and rounding the windward mark.

OBJECTIVES FOR THE WINDWARD MARK:

If ahead:

- 6) round ahead of opponent with no penalty
- 7) be in better position than opponent to execute strategy at beginning of downwind leg

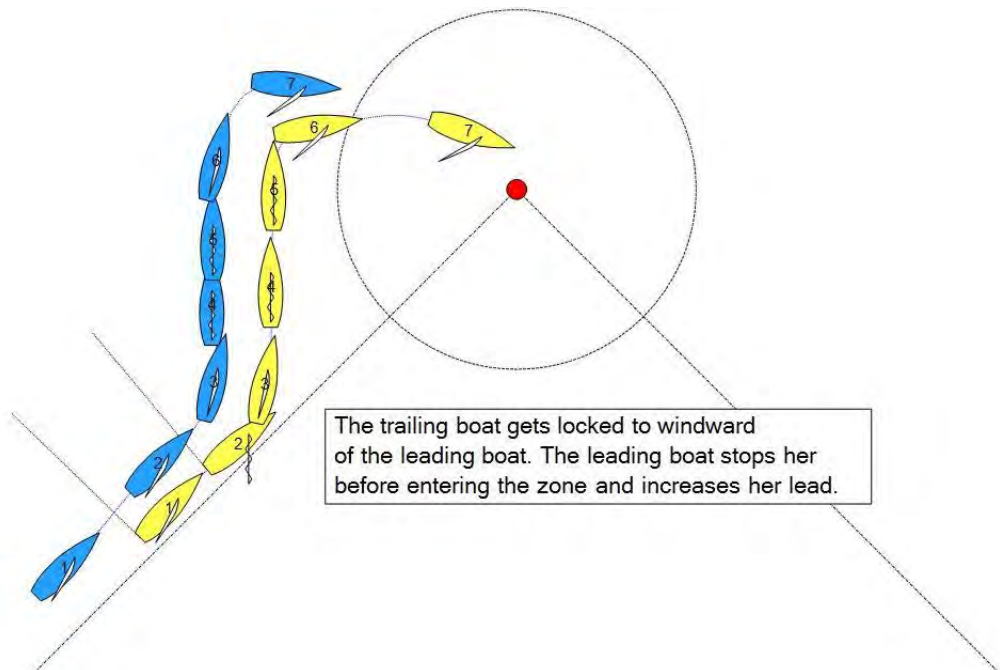
If behind:

- 1) round ahead of opponent with no penalty, or
- 2) round just behind opponent, and in better position to execute strategy at beginning of downwind leg

TACTICAL THOUGHTS (in match racing, the windward mark is left to starboard)

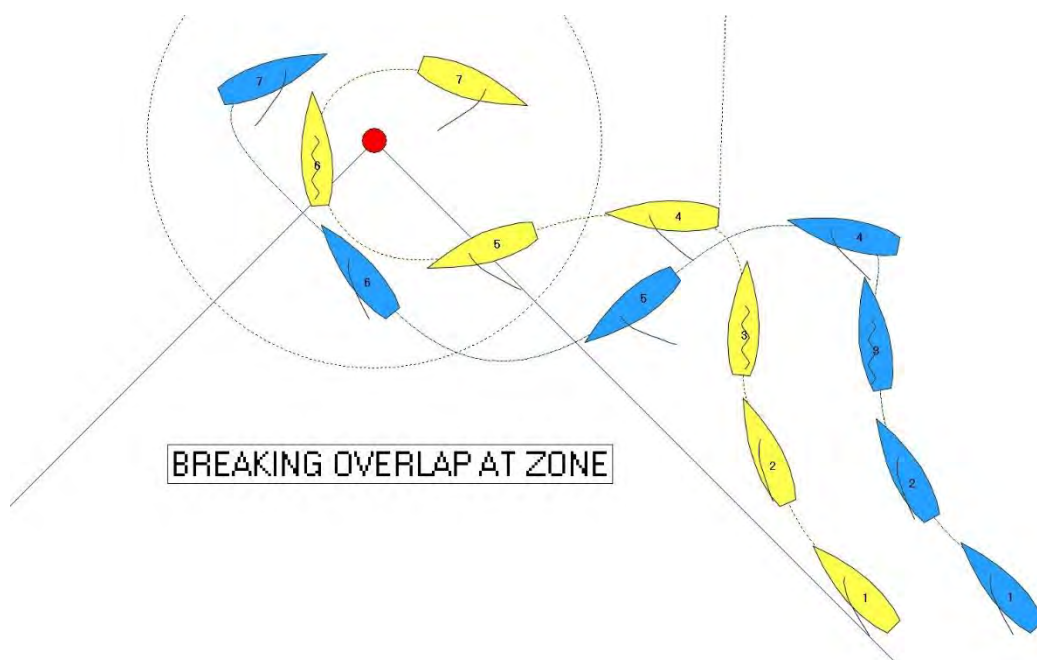
If both boats are approaching on port tack:

- 1) The lead boat should sail as high as possible to cause their opponent to have to pinch or sail in their disturbed air and water. The lead boat can extend their lead a bit by doing this.
- 2) The trailing boat should never become locked in to windward of the leading boat.
- 3) If the trailing boat becomes locked in to windward of the leading boat, the leading boat should luff head to wind and stop the trailing boat; then bear away and extend their lead.
- 4) Once the leading boat reaches the two-length zone clear ahead or overlapped on the inside of the trailing boat, the trailing boat must give her “mark-room” (rule C2.9, 18.2(a)), which includes room for the leading boat to bear away or gybe around the mark if either is the boat’s proper course (definition Mark-Room).



If both boats are approaching on starboard tack:

- 1) If the two boats are overlapped when heading to the mark, the leeward boat should luff and then bear away to break the overlap before reaching the two-length zone.
- 2) If the boats are not overlapped when the leading boat gets to the zone, the leading boat is entitled to room to tack around the mark, even while she is on port tack (rule C2.9, 18.2(a)(2) definition Mark-Room).
- 3) If the boats are overlapped inside the zone, the inside boat is entitled to room to tack around the mark, so the outside boat must leave enough room for the inside boat's stern to swing (rule 18.2(a)(1) and definition Mark-Room).
- 4) If after the inside boat tacks there is space for the outside boat to fit between the inside boat and the mark, the outside boat is nevertheless not allowed to go in there (rule C2.9, 18.2(a)(1)).



If the boats are approaching on opposite tacks:

- 1) If you are on starboard tack:
 - a) you can tack around the mark with no concern for tacking too close (rule C2.9, 18.2(a)(1) and definition Mark-Room)
 - b) approach about one length below the starboard-tack layline so that you have space to complete your tack to port before your bow is at the mark; it will put you in a stronger position to begin the downwind leg
 - c) you cannot dial your opponent down (sail below your proper course) when in the zone (rule C2.9, 18.3(b))
 - d) you cannot sail past the port layline if you will be affecting your opponent's course while doing so, as long as your opponent stays on port tack (rule C2.9, 18.3(b))
 - e) if your opponent tries to duck you, you can tack and "close the door" on them, including gybing if that is your proper course; they have to give **you** mark-room (rule C2.9, 18.2(a)(1))
 - f) once you've tacked to port, you do not need to round the mark. If your opponent becomes overlapped to windward of you, luff head to wind and stop them
 - g) if while you are on starboard, your opponent tacks to starboard to leeward of you, you do **not** need to tack on the port layline; you can remain on starboard as long as your opponent remains on starboard. However once past the port layline you need to keep clear under rule 11 (windward/leeward). Note though that as long as you are in the zone, your proper course is to tack, and your opponent has to give you room to tack under rule C2.9, 18.2(a)(1).

Your primary objective is to tack around the mark ahead of opponent. Your secondary objective is to have them overlapped to windward of you when you round.

- 2) If you are on port tack:
 - a) approach one length over the port tack layline
 - b) try to have your opponent slightly more advanced in the race than you so you can round on their stern or be to leeward of them after the mark, which means you may have to slow down by sailing above close-hauled when approaching the mark
 - c) never overlap your opponent to windward throughout the entire rounding
 - d) your opponent cannot dial you down (though never try to duck her because you have to give her mark-room (rule C2.9, 18.2(a)(1))).

Your opponent is required to tack on the port layline. If she continues past the layline, you need to keep clear of her under rule 10 (port/starboard), but then protest her under rule C2.9, 18.3(b). She should receive a red-flag penalty.

Your primary objective is to round the mark close astern of your opponent, or slightly to leeward of them after the mark, and to use your better speed and spinnaker set preparation to end up close to leeward of them in a strong position to attack them after setting your spinnaker. Remember, with no rule 17 in match racing (sailing above proper course, rule C2.8), you can immediately luff your opponent once you get even a one foot overlap.

Chapter 4...The Downwind Leg

The typical match race course has four legs. Usually legs 2 and 4 are downwind legs. Here are some strategies and tactics for the downwind legs.

Information it is useful to know before beginning the Downwind Leg:

- 1) what is the angle of the wind to the “rhumbline” (the straight line between the windward and leeward mark or finishing line); i.e., what percent of the leg will be spent on each tack
- 2) is the wind direction steady, oscillating, persistently shifting one way, or randomly shift
- 3) is the wind strength steady or changing up and down
- 4) is there more pressure on one side of the leg than the other
- 5) what is the current situation

OBJECTIVES FOR THE DOWNWIND LEGS

(you’ll be racing to a single leeward mark left to starboard, or a gate, or the finishing line)

If ahead:

- 8) stay ahead of opponent
- 9) keep your wind clear (if possible, keep your wind ahead of opponent on the longer tack)
- 10) minimize distance sailed by using shifts and better wind pressure

If behind:

- 1) pass opponent (on leg 2 or 4); or at least round the leeward mark right behind them (on leg 2)
- 2) try to set up to be blocking the leader’s air on the longer tack
- 3) minimize distance sailed by using shifts and better wind pressure

BOAT HANDLING THOUGHTS FOR BOTH BOATS

- 1) try to exit the mark on a lower lane than opponent; swing wide/cut close when turning the mark
- 2) as you are hoisting the spinnaker in heavy air, sail extra low; as it fills, head up to optimum VMG angle

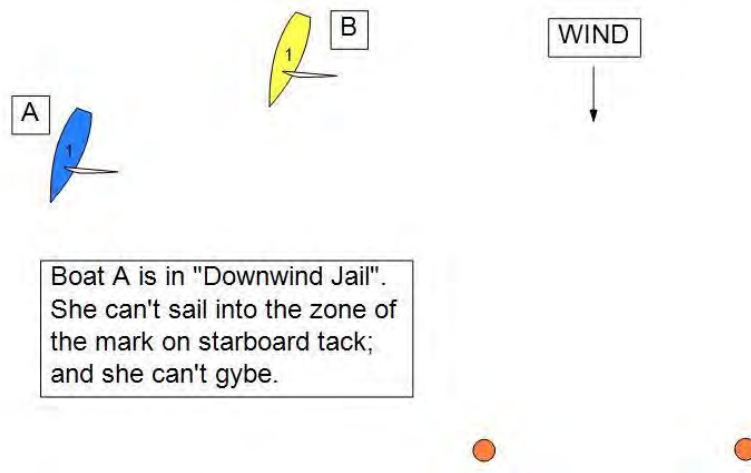
STRATEGY THOUGHTS FOR THE LEADER

- 1) if more than three lengths ahead, keep your wind ahead of trailer on longer tack to mark.
- 2) if leg is 90% or more starboard tack or right side (looking downwind) has much better pressure, try to gybe before trailing boat has set their spinnaker.
- 3) in a close race (less than three lengths) where there is at least 20% port tack on the leg, it is generally better to stay on port tack as you exit the windward mark.
- 4) if the trailer also remains on port tack, deciding when to gybe to starboard tack is the toughest decision. The key is to gybe on the line where if the trailing boat crosses over and gybes to your left, you can soak (sail below VMG) and sail into the zone, but if the trailing boat gybes simultaneously with you (called a “simo gybe”), you can luff them enough so that if they roll you they cannot soak and sail into the zone. This place will come up before the layline, and is called the “Soak Line.”
 - a) **in light air**, it generally pays to gybe a couple of lengths before the first starboard-tack layline (layline to the right-hand gate mark looking downwind, or the pin end of the finishing line), because if the trailing boat (B) “simo gybes” and then rolls the leading boat (A), it is critical that B cannot sail into the zone on starboard tack. That way, A can “simo gybe” when B gybes back to port tack and roll her back (“return the favor”) and lead her into the zone on port tack
 - b) **in medium or heavy air**, it generally pays to gybe on the first starboard-tack layline, because it is harder for the trailing boat to simo gybe and roll the leading boat and get down in front of her

- 5) always be sure your wind is behind or ahead of your opponent; never sail in their disturbed air. Typically you want your wind ahead of them on the longer tack to the leeward mark.
- 6) it is better to defend the left side (looking downwind) early for the starboard advantage, and then the left side late if racing to a gate (to round the left-hand gate mark looking downwind to get the initial starboard-tack advantage on the next leg), and the right side late (when racing to a single leeward mark).
- 7) try to approach a single leeward mark on starboard tack for easiest rounding.

STRATEGY THOUGHTS FOR THE TRAILER

- 1) if you are within three lengths of leader at start of first downwind leg, you can catch up to them by the leeward mark, and even pass them!
- 2) unless you can easily roll the leader on port (e.g., they have a bad spinnaker set), it is better to soak to leeward of their centerline so you are set up to “simo gybe” when they do. After you have “simo gybed,” you then have the choice of trying to pass them on their left or their right (looking downwind).
- 3) if you are on or above the starboard layline to the leeward mark, it is better to try to pass on their left. If you try to pass on their right, you will likely be stuck in Downwind Jail (see the diagram below). Either soak in to leeward of the leader, or gybe back onto port, cross over behind them for two lengths, and gybe back.
- 4) If you are below the starboard layline to the mark, it is better to try to pass on their right unless you want the left gate mark looking downwind.
- 5) from the moment you round the windward mark, always know whether you will want to gybe before, with or after the leading boat gybes; this is critical:
 - a) **by gybing before them**, you gain control of the right side of the leg (looking downwind) which on the first downwind leg is the “inside” position at a single leeward mark (better in lighter wind)
 - b) **by gybing simultaneously with them** (“simo gybe”), you have the chance to block their wind and catch up or pass them (better if within one or two lengths of them)
 - c) **by gybing after them** (crossing over), you gain control of the left side of the leg and have the starboard tack advantage all the way down (better in stronger wind and on the run to the finish); but also if within one length of them)
- 6) try to block the air of the leading boat when she is on the longer tack to the mark. When attacking another boat’s wind, use THEIR telltales or masthead fly to guide you. Position yourself directly in line with THEIR wind indicators.

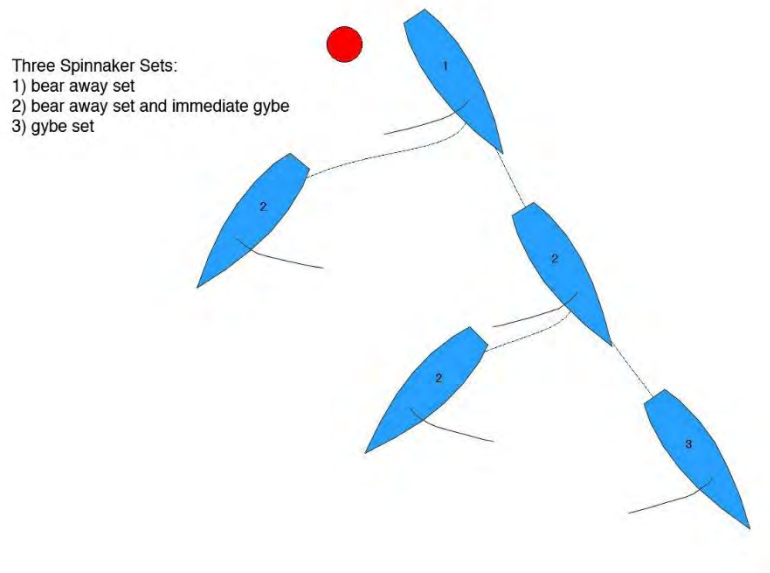


- 7) try to position yourself so you get the best wind pressure first.
- 8) try to approach a single leeward mark on starboard tack for easiest rounding and fastest exit maneuver (usually a tack).

TACTICAL THOUGHTS FOR THE LEADER

The exit from the windward mark

There are three possible spinnaker sets: “bear away”, “bear away and immediate gybe”, and “gybe set”. Be sure to have decided which you will use **before** you round the windward mark.



Here are some thoughts in making that decision:

- 1) if you can nearly arrive at the leeward mark or pin end of the finishing line on one tack, get on that tack immediately.
- 2) if one side of the run is predominantly favored, go towards that side immediately.
- 3) if the leg will be 90% starboard tack or more, and the breeze is medium to heavy, consider a bear away set/immediate gybe. Gybe sets are difficult and costly in terms of boat speed, especially in light and medium wind.
- 4) on the run to the leeward mark, and all other things being equal, stay on port tack. It is very difficult for the trailer to block your wind, and if they gybe first, it will put you on starboard tack when the two boats converge later down the run.
- 5) on the run to the finish, defend the left side (looking downwind) to always have the starboard advantage.
- 6) when in doubt, remain on port tack during the exit and save the starboard-tack advantage, but be sure to gybe on or just before the first starboard-tack layline (to the right-hand gate mark looking downwind, if using a gate, or the pin end of the finishing line).

If you remain on port tack and the trailer follows you and is within two lengths or so...

- 1) try to get and keep your opponent to WINDWARD of your centerline.
- 2) defend your left side! Keep your wind about one boat length ahead (no more / no less) of the trailer's spinnaker (watch your windward shroud or backstay telltale or masthead fly religiously...the wind angles change constantly with variations in true and apparent wind angles and speeds). If your wind is two lengths ahead, bear away until it is about one length ahead, i.e., slide down towards the mark. If it gets less than one length, head up slightly, thereby bringing your apparent wind forward.
- 3) do not let your opponent overlap you to leeward because in match racing there is no rule 17 (proper course limitation, rule C2.8) meaning the leeward boat can luff you aggressively with only a one foot overlap.
- 4) If your opponent is about to overlap you (perhaps they had a better spinnaker set), bear off to a dead downwind course (DDW) and just before they overlap you, throw your boom over. If they overlap you to your right, they will have to gybe and you can luff them aggressively. If they head up to cross your stern, immediately throw your boom back over and luff them aggressively on port tack (the old double-gybe maneuver). Keep your pole attached to the mast in the double-gybe.

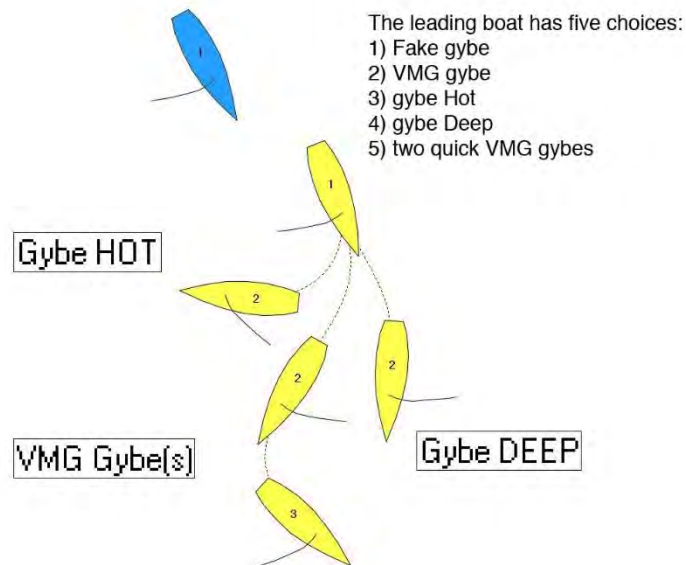
If your opponent remains astern of you, keep asking the question: "if they gybe, what will we do?" To answer that question, here are some thoughts:

- **if you are still a long way from the starboard-tack layline**, and if wind and current is equal, then if they gybe, let them go and you gybe 2-3 lengths later when your wind is safely BEHIND them and you are out of reach of their transom wake
- **if you are near the first starboard-tack layline** (within 10 lengths or so), match their gybe (gybe simultaneously with them) and turn up to a close reach to ensure that your wind is AHEAD of them

NOTE: the skipper must be getting constant information on how close to the first starboard-tack layline the boat is, and someone must be constantly watching the other boat and reporting where they are, how far in front the lead boat's air is, and instantly saying when they begin their turn (the driver should sit where they can see the other boat).

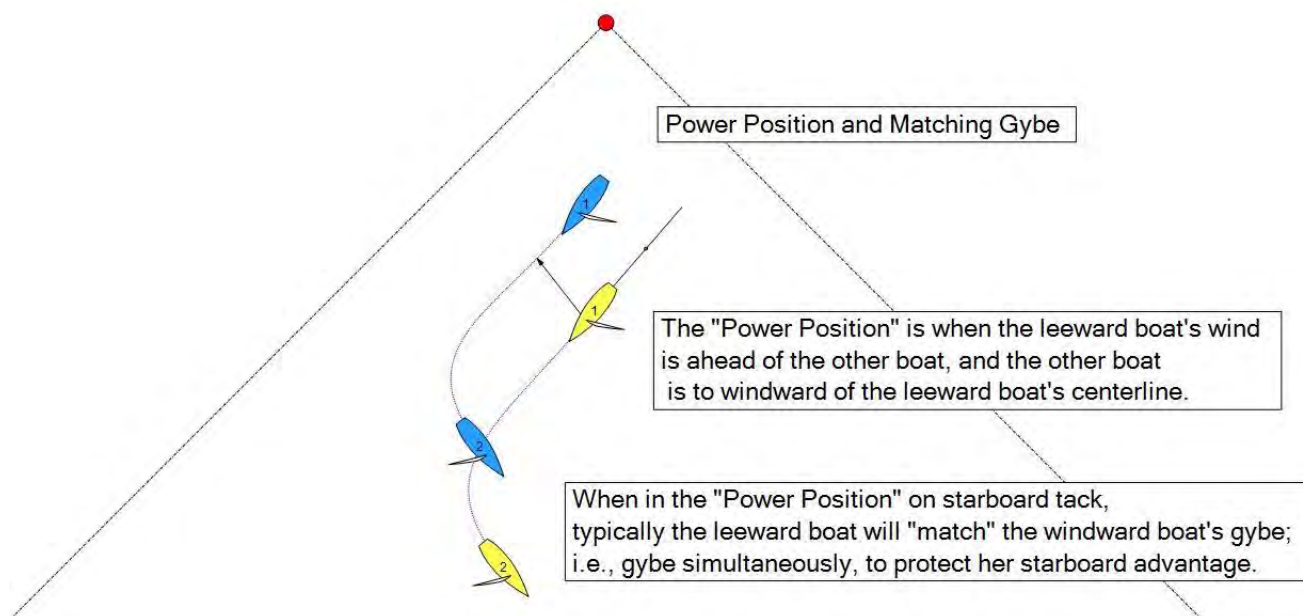
If the trailer is within two lengths of you and to LEEWARD of your centerline in perfect position to block your wind after you gybe:

- 1) try to sail lower than them and move them to windward of your centerline (see above)
- 2) at some point, you will have to initiate the next move. Here are some thoughts:
 - a) wait until you are 10-12 lengths before the starboard layline. In other words, if you were to gybe there, you would not be able to soak and get to the zone of the leeward mark.
 - b) try a fake gybe (bear away, pull the boom in, but leave the spinnaker pole attached). If the trailer "bites" and gybes, simply head up, build speed and gybe with your wind behind the trailer. If the trailer does not bite, simply head up and build speed. The trailer may be more to windward of your centerline now. Typically this only works well when the trailer is less than a length behind or so.
- **in light air**, on the first starboard-tack layline, gybe HOT, meaning onto a hot angle (higher than VMG). If the trailer simo gybes, then try to get your wind ahead of the trailer or luff them and stop them. In light air, make this gybe sooner than later!
- **in heavier air**, on the first starboard-tack layline, gybe DEEP, meaning onto a deep angle (lower than VMG). If the trailer simo gybes, try to get your wind behind the trailer. If the trailer tries to soak down to your wind, head up sharply and get your wind in front of them. If overlapped, luff them into Downwind Jail.
- **in medium air**, you can try gybing hot, gybing deep, or making two quick VMG gybes (gybe and then, if the trailer simo gybes, gybe right back).



If you are on starboard tack and the trailer is following you and is within two lengths or so:

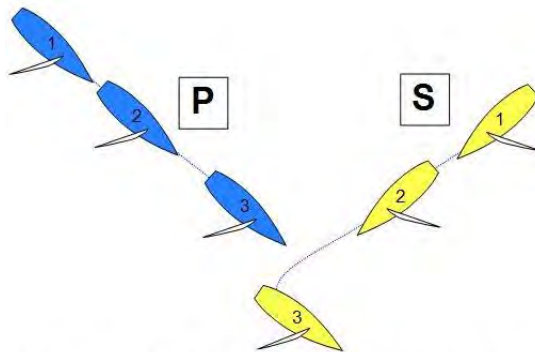
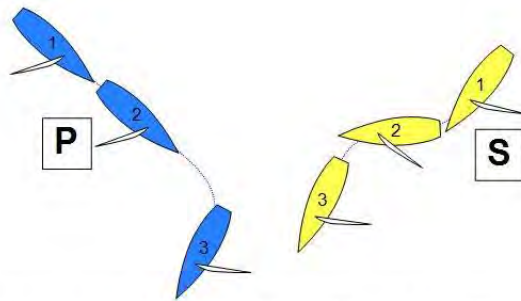
- 1) again, keep the trailer to WINDWARD of your centerline, with your wind about a length ahead of them. You are in the "Power Position"
- 2) if while on starboard, the trailer threatens to take your wind, you have two choices:
 - 1) simply gybe before they do take your wind. This leaves you with the starboard advantage, and is an especially strong move when racing to the finish, because you can finish on port tack. Under no circumstance can you let them overlap you to leeward (because they can luff you or sail you well past the port layline to the leeward mark. Or,
 - 2) head up to keep your wind ahead of them; and if necessary, luff them sharply (giving them room to keep clear under rule 16.1 (changing course); and to get their spinnaker down under MR Call G2)
- 3) if they gybe, gybe simultaneously with them ("match them") so your wind will be AHEAD of theirs on port tack and you'll be protecting the left side of the run (looking downwind) and saving the starboard advantage for later.



If you are converging on opposite tacks...

If you are on starboard tack:

- 1) **if you are within one length of the trailer**, DO NOT LET THEM TAKE YOUR TRANSOM !!! Head up early cutting off their ability to get astern of you, then bear away and force them to gybe to windward of you. Because there is no rule 17 (sailing your proper course, rule C2.8) in match racing, you do not need to sail your proper course during that overlap, and can carry them as far past the port tack layline as you wish.
- 2) **If you are a couple lengths ahead:**
 - a) then early in the run defend the left (looking downwind); i.e., gybe so your wind ends up AHEAD of theirs (remember you will be down-speed after your gybe so gybe sooner rather than later!). Try to cross their centerline slightly before you gybe so they end up to WINDWARD of your centerline if possible.
 - b) if you are within 10 lengths or so of the starboard-tack layline to the leeward mark, change sides with them if possible, i.e., try to cross ahead of them. If going to the finish, you may have to gybe to protect the left (looking downwind) and then gybe back near the starboard-tack layline to the race committee boat.

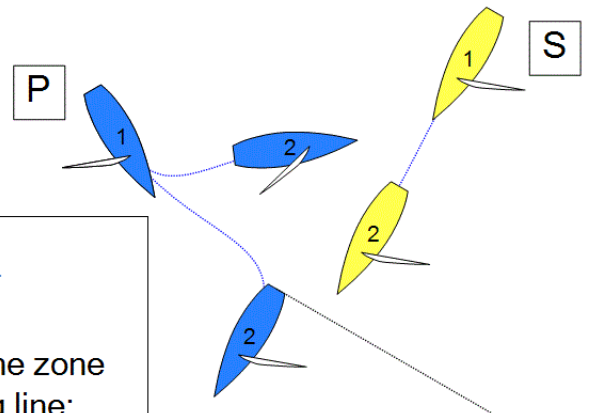


TRICK: if you decide to “switch sides,” the trailer will probably be looking to gybe and block your wind. As you approach, sail about 10 degrees below max VMG angle. The trailer may delay their gybe to be sure they gybe on your wind. As they gybe, immediately head up and pull your wind AHEAD of their spinnaker.

If you are on port tack: what you never want to do is gybe into a windward overlapped position, or just in front where the trailing boat can easily become overlapped to leeward of you. Because there is no rule 17 (sailing your proper course, rule C2.8) in match racing, once overlapped to leeward of you, the trailing boat does not need to sail their proper course during that overlap, and they can carry you as far past the port-tack layline as they wish.

- 1) If you are on port tack and ahead, and not near the starboard-tack layline, and you can cross Starboard (i.e., “switch sides”), then that is desirable. If you think Starboard may gybe on your wind, try sailing extra low to try to sucker them into delaying their gybe; then head up quickly to pull your wind AHEAD of them.
- 2) If Starboard hits your wind, gybe away immediately, extend to full speed, and gybe back again (or when the wind is most favorable for you to do so).
- 3) If Starboard lets you cross, gybe when you are sure your wind will be BEHIND theirs and that you are clear of their transom wake.
- 4) If you are within 10 lengths or so of the starboard layline to a single leeward mark, or the right-hand gate mark looking downwind, or the pin end of the finishing line, just cross Starboard’s centerline (if you can) and gybe, making sure your wind will be at least one length AHEAD of theirs after you build to full speed. (The risk of going all the way through and gybing with your wind BEHIND them is that if the velocity increases or the wind shifts left allowing Starboard to either sail into the zone on starboard tack, or have the eventual port-starboard convergence occur inside the zone, you have to give Starboard room at the mark (even if overlapped on opposite tacks)).
- 5) If you cannot cross, then it is better to sail hot and pass astern of them, go two lengths, and then gybe onto starboard tack. From there you might sail into a position where they cannot gybe (Downwind Jail). And if they can gybe, then you can gybe on their wind, pull forward on them, and then gybe onto starboard and attack them.

If P cannot cross S, then P has two choices:
1) cross behind S, sail 2 lengths and gybe; or
2) gybe clear ahead of S.
P should only gybe if she is able to sail into the zone of the leeward mark or pin end of the finishing line; otherwise, she should cross behind.



TACTICAL THOUGHTS FOR THE TRAILER

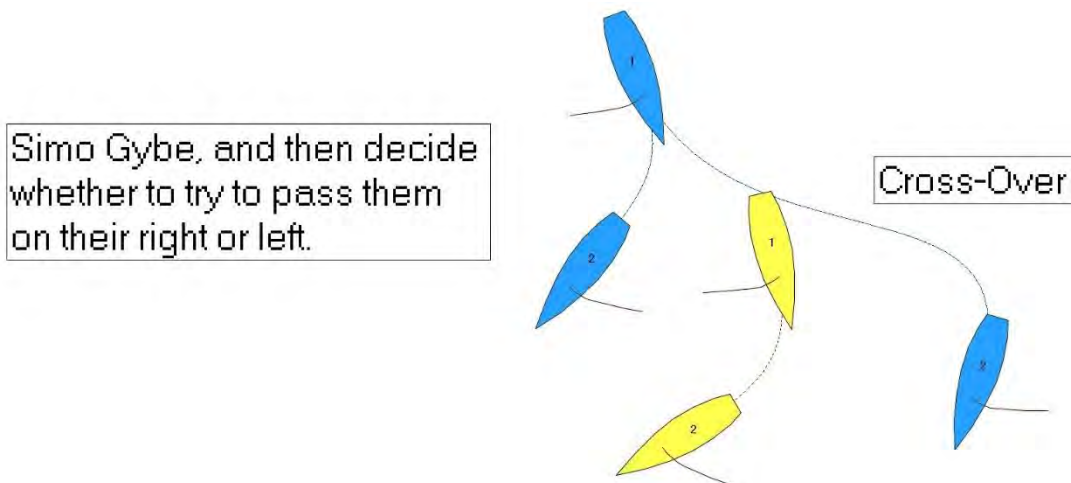
If you are behind at the windward mark...

- 1) unless one tack is predominantly favored, plan to do a bear away set and be ready for an immediate gybe
- 2) if the leader stays on port tack, try to out sail them through the spinnaker set and thereafter so you end up to LEEWARD of their centerline. Your goal is to overlap them to leeward and then luff them aggressively (no rule 17 in match racing; rule C2.8). Overlap them tightly so they cannot gybe, or far enough to leeward of them so that if they gybe onto starboard, you can quickly luff and cross their stern. Watch out for them gybing right back as you pass astern of them (“cross over”).
- 3) resist the temptation to gybe if the leader gybes right after the mark. When the leader initiates the gybe right after the rounding, and the trailer gybes and follows, typically the leader ends up in the Power Position (wind ahead of the trailer and trailer to windward of the leader’s centerline). From here, the leader can keep her wind clear on both tacks for the entire leg.
- 4) if the leg will be a long port tack, consider heading up to try to force the leader to head up. When the two tacks are more even, work hard to get back to LEEWARD of their centerline and await their gybe. But don’t try too hard to force the leader up. If the leader doesn’t head up in response, the trailer just ends up farther to windward and in a weaker position.
- 5) if you are more than three lengths behind, you have to do a better job than your opponent on sailing your boat low and fast, sailing the shortest distance to the next mark (sail on the headed tack) and getting the puffs first. Once you are within 3 lengths, you can think more boat-to-boat tactics.

When they gybe...

- 1) if there is still some port tack left in the leg, set up to pass them on their LEFT (looking downwind).
- 2) if you are within a length or so, or more than three lengths back, or if you are to WINDWARD of their centerline (which means you won’t be able to hit their wind on starboard tack), when they gybe “cross over”, which means switch sides by crossing their transom and gybing when your wind is clear BEHIND them and you are clear of their transom wake. This is usually in 2 lengths after crossing their centerline. The one exception is that in light air it can work to “simo gybe” and roll the leader, because the speed differential often lets you soak down in front of them after the roll.
- 3) if you “cross over” and gybe within a length or 2 after crossing their centerline, you may be able to use your starboard advantage before the leader can get to the zone; and worst case you will follow them into a single mark on starboard, have a good rounding, and plan to tack around the mark. When racing to a gate, you can take the left gate mark (looking downwind). When racing to the finishing line, you may be able to gybe on their wind on port tack and roll them right at the line.
- 4) if you are 2-3 lengths behind and to leeward of their centerline, “simo gybe” when they gybe. You will either be on their wind, or close enough that they will luff to try to get/keep their wind ahead of you. Either way, you will close the distance between the boats.
- 5) if you “simo gybe” and are blocking their wind or about to block their wind, you have to make a quick decision: whether to try to pass them on their left or their right? The rule of thumb is: if you think you can roll them on starboard tack, pull clear ahead, and then soak into the zone on starboard tack, then pass them on their right...if not, set up to pass them on their left.

- 6) If you decide to pass them on their left, just before you get locked to windward of them, bear away sharply and overlap them to leeward, or gybe and cross their transom (be careful your spinnaker clears their backstay or main leech!). If you choose to gybe, then gybe back once you are about 2 lengths to their left (have “crossed over”). You own them now (they are in Downwind Jail)!
- 7) When in doubt, set up to pass on the left. If the trailer tries to pass the leader on the right and fails, they end up in Downwind Jail, and typically loses a lot of distance in the effort, and often ends up with a penalty as well. And again, if the trailer sets up to pass on the left and doesn’t pass, the worst case is that they will round a single leeward mark directly behind the leader and in a good position to tack around the mark, and will get the left-hand gate mark (looking downwind) and the initial starboard-tack advantage on the next leg.
- 8) if you are racing to the finish, always try to pass on the left unless you are 100% sure you can roll the leader on starboard, break the overlap, and sail into the zone of one of the finishing marks on starboard tack.



Global thoughts when catching up to the leader

- 1) when you are closing in on the leader when both boats are on starboard tack, and assuming you won’t beat them to the zone: bear away and sail to LEEWARD of their centerline. You do NOT want to get pinned to windward of them (Downwind Jail).
- 2) when you are closing in on the leader when both boats are on opposite tacks, and you are on port tack: plan early to cross over, i.e., luff and sail across the stern of the leader; do not get forced to gybe to windward of the leader (Downwind Jail).

RACING TO A LEEWARD GATE

Racing to a leeward gate in match racing makes for a more interesting race course, and one that keeps the race closer for longer into the race. Here are some tactical thoughts when racing to a gate. For clarity's sake, I will refer to the two marks as they appear when racing downwind towards them. The mark on the left (looking downwind) will be the "left-hand mark," and the other the "right-hand mark" (see leeward gate diagram).

Keep in mind that racing to the finishing line on leg 4 is the same as racing to a gate (each has four laylines), except that the boats will round the gate marks. The leading boat has the advantage of being able to choose which gate mark to round, or which end to finish at; the trailing boat has the advantage of being able to choose to round the same mark as the leader, or not. This makes the game much more interesting for both boats, and makes rounding behind the leader much less disadvantageous. When the trailer rounds the same mark as the leader (which they are forced to do with a single leeward mark), they have two not-great choices: stay on the same tack and sail in the disturbed air and water of the leader; or tack (often when downspeed after the rounding). The problem is usually that the leader will tack with the trailer, ending up in a very strong position to start the second beat.

With a second mark to choose from, the trailer will normally round the other mark than the leader did, starting the beat in clear air and water, and out of phase with the leader. This opens up far more tactical options for attacking and trying to pass, or stay close to, the leader.

The leeward gate is normally set approximately 3 lengths apart to minimize any bias if the gate is not square to the wind, and to reduce the chances of the leeward boat luffing above its proper course (rule C2.9, 18.3 does not apply at a gate) because she will quickly become the outside boat in the zone to the other mark and required to give the windward boat mark-room at that mark (rule C2.9, 18.2(a)(1)). (see leeward gate diagram)

When wouldn't the trailer round the other mark than the leader did?

- 1) If the bias in the gate is significant (10 degrees or more), the gain from rounding in clear air and water will be less than the loss of sailing the extra distance to round the other mark. When approaching the gate, decide whether one of the marks is noticeably more upwind than the other.
- 2) But if the marks are relatively square to the wind, and one side of the beat is significantly favored, and the leader rounds the mark closer to that side, then rounding the other mark than the leader rounded and tacking immediately is a better way to get to the favored side. If you round the same mark as the leader, you will end up tacking almost immediately "away" from the favored side (to clear your air), and the leader will easily be able to prevent you from ever getting to the favored side if they want to.

How should the leader decide which mark to round?

There are many considerations that go into the decision on which mark to round, for both boats.

- a) is one mark more upwind, and by how much?
 - b) is one side of the beat significantly favored?
 - c) which rounding provides the easiest / fastest boat handling?
- 1) To determine if one mark is more upwind than the other, you can watch boats ahead of you round and exit the gate, look at flags on nearby race committee boats, and eyeball the two marks yourself. And you will give some thought about the next beat about halfway down the run, again watching matches on that leg, thinking back on the leg you just sailed, and eyeballing the water.

- 2) As for picking the easiest / fastest rounding, one consideration is that in light air a gybe around the leeward mark is very slow. Taking the rounding that doesn't require a gybe will be faster in light air. This factor is reduced in more breeze, but gybing is always slower and more risky than not.
- 3) If all things are pretty equal, rounding the right-hand mark will require one less gybe on the run and an easier rounding, and rounding the left-hand mark will position the leader to the right of the trailer, giving them the initial starboard-tack advantage. It is also easier to defend the inside position racing to the left-hand mark, as the inside position can be held on starboard tack.

In general, set up to round the right-hand gate mark (looking downwind) unless the left-hand mark is favored or the race is very close. Setting up to round the right-hand mark leaves the option to gybe and round the left-hand mark. In a close-race, when the gate is relatively square, round the left-hand mark to acquire the starboard advantage on the beat.

Setting up the approach to the gate

- 1) The interesting thing about the gate is that it provides four laylines, or approaches, to the gate (see diagram). Before being sure which mark to round, gybe on the first layline you come to, thereby keeping options open longer. Once a boat has passed the first layline to one of the marks, they will have overstood that mark if they later decide to round that one.
- 2) Early in the leg, often the leading boat gybes to starboard first. If the trailing boat is within a length or so, they should not gybe. Instead they should cross over, sail 2 lengths and gybe. They will be in a strong position to attack the leader, or at least round the left-hand gate mark.
- 3) Often when the leading boat gybes, the trailing boat matches the gybe ("simo gybes"), trying to take the wind of the leader and roll them. Often this fails, and the trailer is left to windward of the leader with the leader's wind in front of them. This is a weak position with a single leeward mark. With the gate however, if the leader sails past the port-tack layline to the left-hand mark, the trailer can gybe on this layline with the initial plan to round the left-hand mark. And if the leader does gybe on this layline, the trailer can do the same, leaving them the option of later gybing on the starboard-tack layline to the right-hand mark and rounding that one in clear air.
- 4) Furthermore, the trailer can gybe **before** the port-tack layline to the left-hand mark, getting them to the left of the leader looking downwind (if the leader does not match their gybe) with the possibility of using their starboard advantage later in the leg; and still having the option of gybing on the starboard-tack layline to the right or left-hand mark as they choose.
- 5) If the leader does not gybe early in the leg, then they will have to decide whether to gybe on or before the starboard-tack layline of the right-hand mark or the pin end of the finishing line. If they do, the trailer has the option of crossing over and gybing on the starboard-tack layline to either mark. If the leader passes the starboard-tack layline to the right-hand mark, then the trailer can choose to gybe on this layline and do a no-gybe rounding of the right-hand mark, while the leader will do a gybe rounding around the left-hand mark.

As there are more options for approaching and rounding the gate marks, more discussion needs to occur early in the leg about the plan and options.

Exiting the gate

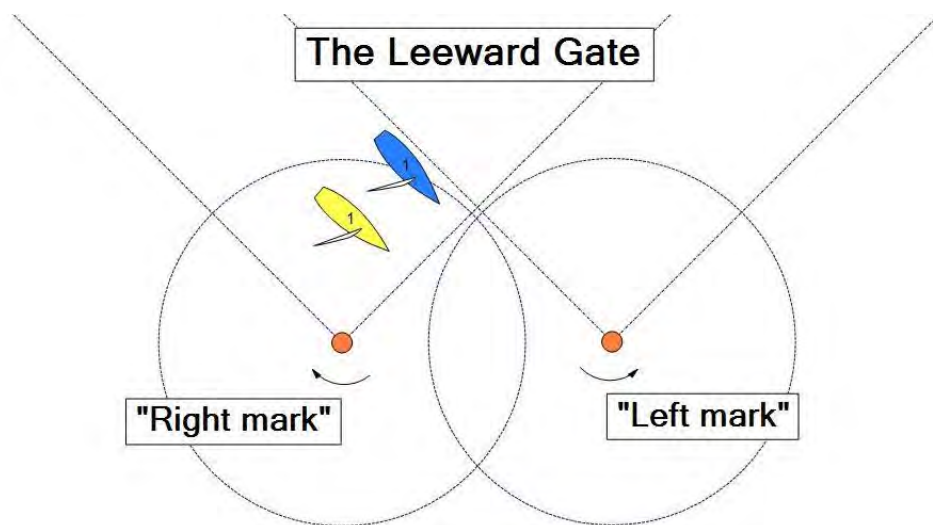
- 1) A conservative strategy when leading through the gate by a length or more is to round the mark and tack when your opponent rounds the other gate mark. This puts you in phase with the trailer, and minimizes any leverage they may get after the gate.
- 2) A split after the gate is similar to a Split Start. It often happens when each boat is unsure when to tack, and so the split gets larger. The larger the split, the greater the leverage, and the bigger the gain and loss will be in a shift or difference in pressure. Keeping the race close is usually in both boat's best interest.

Some rule differences when using a gate

1) Rule C2.9, 18.3(b) does not apply at a gate mark (rule 18.3(b) is the rule that requires an inside, overlapped, right-of-way boat to sail no farther from the mark than her proper course when her proper course includes a gybe). So outside windward boats need to be careful. Of course, once either boat sails into the zone to the other mark, the leeward boat becomes the "outside" boat at that mark and must give the windward inside boat mark-room (room to sail to the mark). So there is risk involved with luffing someone in the zone, because the leeward boat may get a penalty for failing to give mark-room at the other mark (see leeward gate diagram).

2) If the boats are approaching the left-hand mark (looking downwind) on opposite tacks, the inside starboard-tack boat does not need to gybe to round the mark (rule 18.3 does not apply), and if the outside boat wants to round the same mark, she should not get her bow locked such that she would be forced to gybe away to keep clear if the inside boat did not gybe around the mark.

3) If one boat (A) is clear ahead of the other (B) and if A sails into the area between the marks where the zones are overlapping, then A has reached the zone of both marks clear ahead and B owes her mark-room to both marks for as long as A stays inside both zones [rule 18.2(a)(2)]. A can change her course as much as she pleases; so B should stay clear astern of A until A is committed to going to one of the marks. Normally A won't slow down when going through the gate, but if she has a penalty, she might use this opportunity to try to trap B.



Chapter 5...The Leeward Mark / Finish

The final approach, rounding and exit at the leeward mark/gate presents many opportunities to extend one's lead, or to catch up to, pass and even get a penalty on the other boat. And the tactics when racing to the finishing line change from when racing to the leeward mark/gate. Here are some strategies and tactics when racing to the leeward mark/gate and finishing line.

OBJECTIVES FOR THE LEEWARD MARK

(the leeward mark will either be a single leeward mark to be left to starboard, or a gate)

If ahead:

- 11) round ahead with no penalty
- 12) have better exit from mark to be in better position to execute strategy beginning windward leg

If behind:

- 1) round ahead with no penalty, or
- 2) round just astern of leader with ability to roll into a tack at full speed, or get some separation to begin attacking on leg 3

Strategy thoughts for leader:

- 1) get wind ahead of trailer on tack that allows you to reach the zone
- 2) try to enter the zone on starboard tack for best possible rounding (for single leeward mark)
- 3) round the desired gate mark (see chapter 4, Racing to a Leeward Gate)
- 4) if boats are overlapped on starboard tack and you are leeward boat, luff trailer so the boats do not enter the zone (Downwind Jail; see chapter 4); then gybe and enter the gate area clear ahead of trailer and round the left-hand mark (unless right-hand mark is desired mark)
- 5) if you are approaching the trailer on opposite tacks and you are on starboard tack, be sure the intersection occurs before the zone, forcing them to gybe (and then luff them) or sail across your transom (giving you the inside position at the mark) (for single leeward mark)
- 6) if you enter the zone clear ahead, make a slow wide rounding to be sure boat is cleaned up and ready to go upwind

Strategy thoughts for trailer:

- 1) try to block the leader's air on the longer tack to the mark
- 2) try to enter the zone on starboard tack for best possible rounding (for single leeward mark)
- 3) set up to left of opponent to try to prevent leader from gybing to the mark (easier to do when both boats are on starboard tack and you are just clear astern or overlapped to leeward). Push them well past layline, gybe and enter the zone clear ahead

OBJECTIVE FOR THE FINISH

- 1) beat the other boat across the finishing line after completing any penalty

Strategy for Finish

- 1) the starboard advantage is a stronger advantage, so if behind, attack on the left of the leader (looking downwind) if possible; if ahead, defend the left side
- 2) determine which end of the finishing line is more upwind and finish there
- 3) cross the finishing line perpendicular to the line, and shoot down from about one length before crossing (you finish when your bow crosses the finishing line, not your spinnaker; rule C2.1)

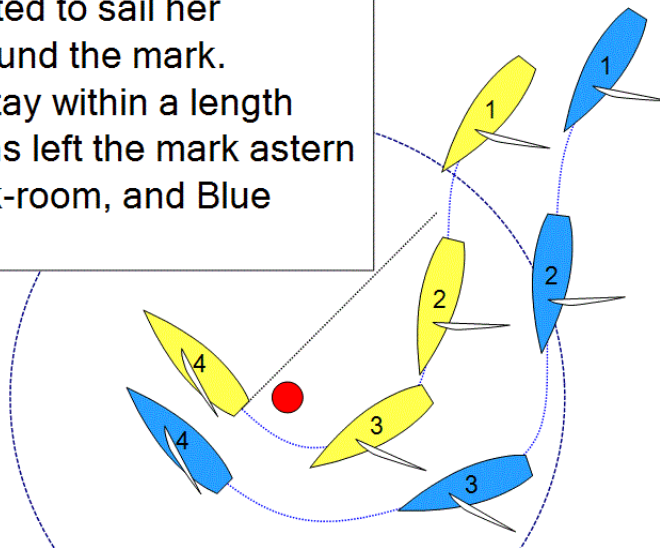
TACTICAL THOUGHTS

If both boats are approaching the leeward mark on starboard tack

If ahead or overlapped on the inside:

- 1) defend the inside position aggressively
- 2) if clear ahead at the zone, you can sail as wide from the mark as you want, as long as you stay within the zone. Sailing wide gives you more time to clean-up and allows you to come to close-hauled before arriving at the mark for a “cut close” passing of the mark.
- 3) if overlapped on the inside without the right of way, you are permitted to sail your proper course to and around the mark until you have left the mark astern, which includes tacking (see the definition Mark-Room).
- 4) after rounding, if your opponent follows you, have the main trimmer look aft and tell the skipper when the trailing boat tacks. Typically the leading boat tacks simultaneously with the trailing boat (see Exit Thoughts below).

Yellow does not have the Right of Way - regardless, she is permitted to sail her proper course to and around the mark. To be safe, she should stay within a length of the mark. Once she has left the mark astern she has been given mark-room, and Blue can luff her.



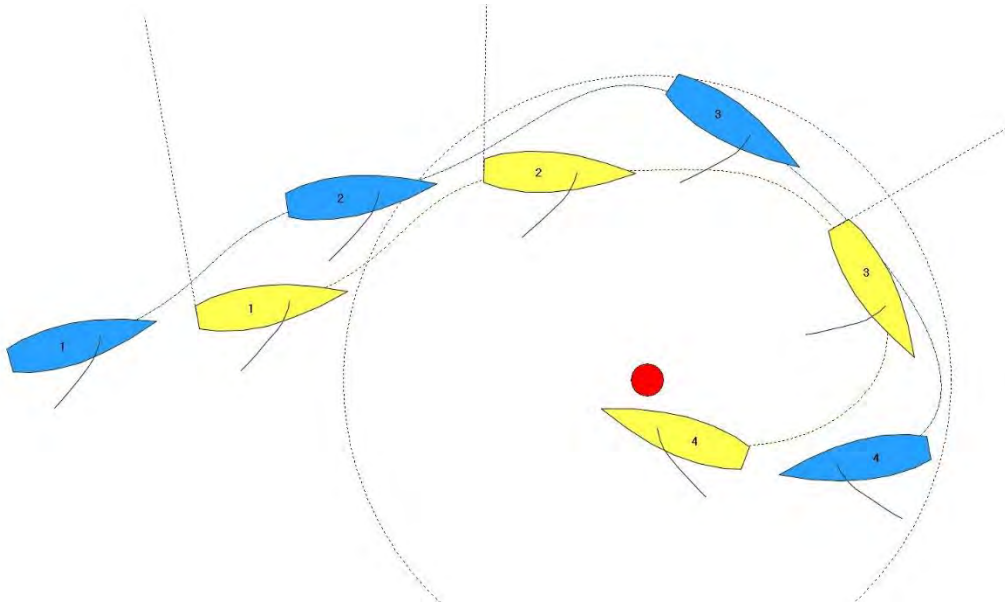
If behind or overlapped on the outside:

- 1) drop your spinnaker early and set up for a better rounding than the leader
- 2) if a gate, prepare to round the other gate mark, unless the mark the leader is rounding is the desired mark
- 3) if clear astern and following the leader around the mark, roll into an immediate tack
- 4) if overlapped on the outside and following the leader, keep your bow far enough away from the leader's transom and prepare for a “swing wide/cut close” rounding and roll into an immediate tack.
- 5) An alternative is to keep your bow close on the outside of the leader and then luff her as her stern passes the mark, causing her to tack away onto port tack

If both boats are approaching the leeward mark on port tack

If ahead or overlapped on the inside:

- 1) defend the inside aggressively.
- 2) if clear ahead at the zone, you can sail as wide from the mark as you want, as long as any part of your boat stays within the zone. Sailing wide gives you more time to clean-up and allows you to come to close-hauled before arriving at the mark for a “cut close” passing of the mark.
- 3) If a gate, and you are sailing a close-reach angle (coming in from Downwind Jail), round the left-hand mark and watch your opponent. If they round the right-hand mark, tack immediately. If they follow you, have the main trimmer look aft and tell the skipper when the trailing boat tacks. Typically the leading boat tacks simultaneously with the trailing boat (see Exit Thoughts below)
- 4) if the trailing boat is overlapping you on the outside while you are in the zone of a single leeward mark, rule C2.9, 18.3(b) requires that you sail no farther from the mark than needed to sail your “proper course” until you gybe. Be careful not to take too much space and risk getting a penalty. This does not apply at a gate mark.
- 5) after rounding, if your opponent follows you, have the main trimmer look aft and tell the skipper when the trailing boat tacks. Typically the leading boat tacks simultaneously with the trailing boat (see Exit Thoughts below)



If behind or overlapped on the outside:

- 1) drop your spinnaker early and set up for a better rounding than the leader.
- 2) if clear astern, plan to follow the leader around the mark and roll into an immediate tack, or round the opposite mark if a gate.
- 3) if overlapped on the outside at a single leeward mark, try to keep the overlap on the inside boat until about a length from the mark and protest her if she takes too much room (wider than her proper course); then widen your course and prepare for a “swing wide/cut close” rounding and roll into an immediate tack.
- 4) An alternative is to keep your bow close on the outside of the leader and then luff her as her stern passes the mark causing her to tack away onto port tack.

Exit Thoughts

At a single leeward mark, typically the leader will remain on starboard tack as they exit the rounding, and the trailer will tack as they round the mark or shortly thereafter. Usually this is a big advantage for the leader, because when the trailer chooses to tack back to starboard, the leader can tack right on them and force them to tack back when downspeed. The leader then builds speed and tacks back, and gains as a result. Or the leader can simply cross over and take the powerful right-hand side with its starboard-tack advantage.

Occasionally it is better for the leader to tack first

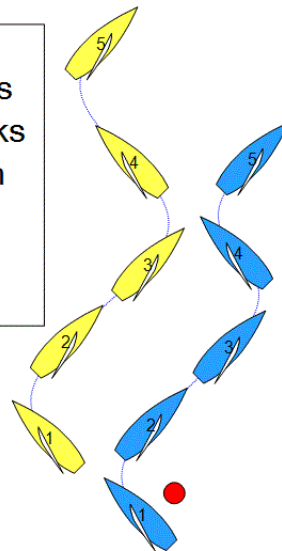
Here are some times when it may be better for the leader to tack first after rounding the leeward mark:

- 1) when the right is heavily favored
- 2) on a shifty day when rounding in a left-hand shift
- 3) when the leg is 80% or more port-tack
- 4) when you have a penalty, as it gives you the starboard advantage up the leg

When the leader should and shouldn't "simo tack" (tack at the same time) with the trailer

- 1) not in light air; it is too easy for the trailer to get their bow out due to the larger tacking angles.
- 2) usually in medium air, but it depends on the quality of the rounding, relative speeds of the boats and the water at that moment.
- 3) always in heavy air, because the leader usually ends up bow forward due to the narrow tacking angles
- 4) after tacking simo, typically the leader will sail slightly lower and faster than the trailer to get into a safer bow forward position.
- 5) if the leader wants the right, and chooses to simo tack, and if the trailer then immediately tacks back to starboard, the leader can simply take the right, or can tack again on the trailer. If the trailer tacks immediately back to port, the leader can sail a "speed build" distance and tack, or can match the third tack. At that point they should take the right.
- 6) If the leader wants the left, they can match the trailer's first two tacks, but should extend to the left if the trailer tacks a third time (back to port).

Yellow matches Blue's tack around the mark. She then matches Blue's second tack. When Blue tacks a third time downspeed, Yellow can extend briefly until up to speed, and then tack back to cover, extending her lead.



Chapter 6...Penalty Plays

Match Racing has a unique delayed penalty system that makes the game very exciting for sailors, umpires and spectators. Basically, when a boat protests during the race, which includes the pre-start, the umpires make a decision right then and there, which can include giving a boat a penalty. The boat can choose to take the penalty at any time during the race after starting and before finishing. If the other boat gets a penalty later in the race, that penalty cancels the first one. It is not uncommon for one of the boats in the match to be carrying a penalty during the race. Here then are some strategies and tactics each boat can use when one of the boats is carrying a penalty.

OBJECTIVE FOR BOAT WITHOUT THE PENALTY

- 1) if ahead, stay ahead
- 2) if behind, stay about two lengths behind the leader (no closer; no farther away) called "Play 2"

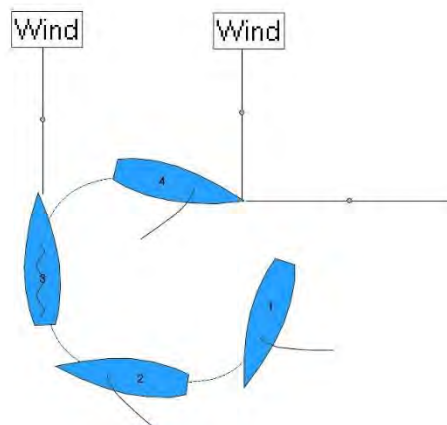
OBJECTIVE FOR BOAT WITH PENALTY

- 1) get far enough ahead to be able to take the penalty and finish ahead of opponent ("Spin & Win")
- 2) get an off-setting penalty and finish ahead of opponent

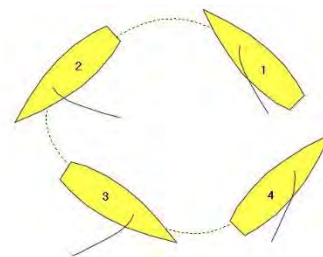
Penalty requirements

NOTE: in match racing, legs 1 and 3 are the "Upwind Legs" and legs 2 and 4 are the "Downwind Legs, regardless of the direction of the wind at the time.

- 1) Upwind Leg – boat must gybe and return to a close-hauled course [rule C7.2(a)(1)]; i.e., about a 270 degree turn.
- 2) Downwind Leg – boat must tack and bear away to a course that is more than 90 degrees from the true wind [rule C7.2(a)(2)], and the head of the spinnaker must be below the gooseneck before the boat passes head-to-wind [rule C7.3(a)]. Note, a "tack" is close-hauled to close-hauled (see MR Call N6).
- 3) No part of the penalty can be taken before a boat has started (crossed the starting line after the starting signal) or in the zone of the windward or leeward mark; but it can be taken in the zone of a finishing mark [rule C7.3(b)].



Downwind Leg Penalty:
Blue must tack and then turn down to just past a beam reach. The head of her spinnaker must be below the gooseneck before she passes head-to-wind.



Upwind Penalty:
Yellow must gybe and return to a close-hauled course.

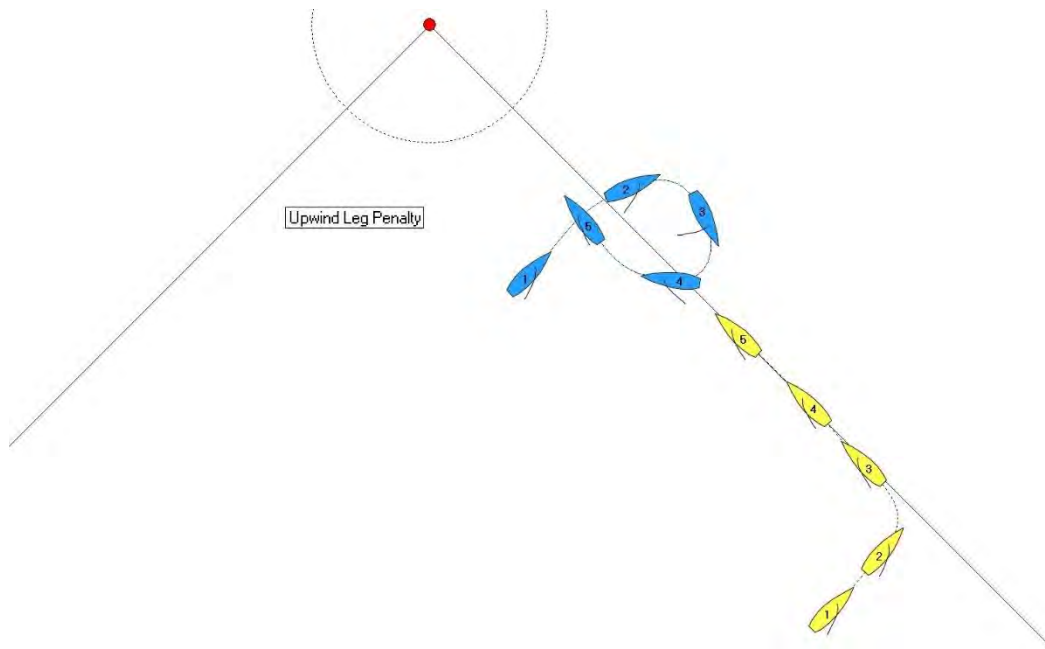
STRATEGY THOUGHTS

General strategy

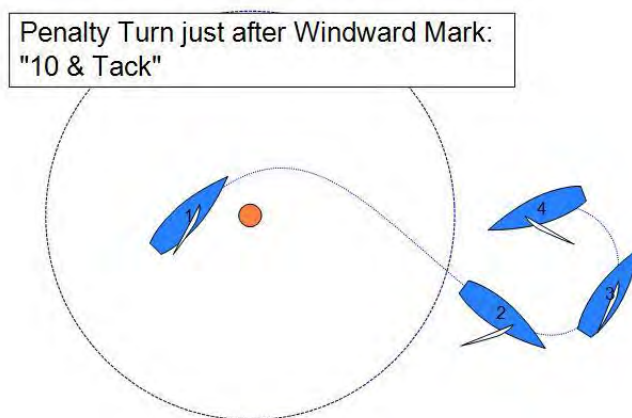
When you receive a penalty in the pre-start or on leg 1 or 2, forget about it! You need to have the lead in the race before you can deal with your penalty. Get a good start, and race leg 1 and 2 as hard as possible. Get the lead, then extend the lead. About a third of the way up leg 3 (second windward leg), start discussing whether you have enough of a lead to take your penalty and still be ahead, or not. Then decide your tactics. Do not take your penalty if you will end up behind your opponent after taking it.

If you have enough lead to take penalty and remain ahead of opponent (“Spin & Win”)

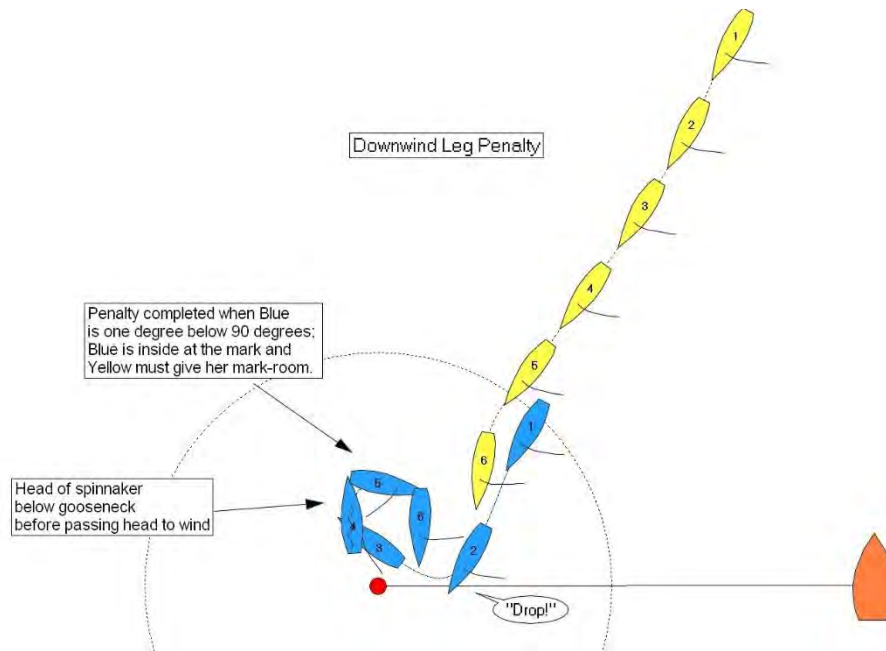
- 1) if you do it on an upwind leg (leg 1 or 3)
 - a) you need about a 3-4 length lead (~ 9-12 seconds) to be able to remain ahead of opponent
 - b) gybe when being headed and were planning on tacking, or
 - c) gybe from port to starboard tack on the starboard-tack layline to the windward mark zone near the windward mark, so you have the starboard advantage after you complete your penalty.



- 2) if you do it on a downwind leg (leg 2 or 4)
 - a) you need about a 4-5 length lead (~ 12-15 seconds) to be able to remain ahead of opponent
 - b) you can do it right after exiting the zone of the windward mark ("10 & Tack"); this gives you the starboard advantage and the entire leg to pass the other boat if they pass you while taking your penalty. To be sure you do not re-enter the zone while taking the penalty, exit the mark on a broad reach (no spinnaker) and start counting as your bow passes the mark. Time it so you are saying "3" when your stern passes it. Then maintain that cadence until you say "10", and tack around. (See MR Call E9.)
 - c) After completing a "10 & Tack", you are on starboard tack. You have three options:
 - a. Continue into a gybe and set your spinnaker
 - b. Do a windward hoist when almost dead downwind on starboard tack and then decide whether you will stay on starboard or gybe (depends where your opponent is)
 - c. Luff and attack your opponent and cause a Dial-Up, which turns into a tack set for you



- d) or you can do it at the finishing line in one of two ways:
 - i) approach the finishing pin mark on starboard tack, and enter the zone aiming about a length to the left of the mark. Drop your spinnaker (be sure the head is below the gooseneck!) and tack just as your bow crosses the finishing line (you don't "finish" until you cross the finishing line **after** you have completed your penalty). If you are in a boat over 26 feet you might choose to tack around the pin instead. Be sure your entire boat is on the course side of the finishing line after you are below a beam reach on port tack and before you cross the line. Throughout your turn you are entitled to mark-room under rule 18.2(a)(1), but you are required to keep clear of the other boat until you are below 90 degrees to the true wind under rule 21.2. Once you are below 90 degrees and the umpires have lowered your penalty flag, your opponent needs to continue to give you mark-room but you need to continue turning towards the mark. The safest thing to do is to gybe around the mark.



- (ii) approach the Committee Boat end on port tack. When about a length from the finishing line, drop your spinnaker (head below the gooseneck). As your bow crosses the finishing line, tack. Be sure your entire boat is on the course side of the finishing line after you are below a beam reach on starboard tack and before you cross the line. Once you are past a beam reach and the umpires have lowered your flag, you have the right-of-way as a starboard-tack boat.

Defense for trailing boat

- 1) sail a straight line directly astern of boat taking penalty. While she is in the zone, and even while she is taking her penalty, you need to give her mark-room under rule 18.2(a)(2). If you need to alter course to avoid contact before she gets below a beam reach, she will get a second penalty (rule 21.2); or
- 2) sail fast for the most upwind end of the finishing line and finish ahead of opponent

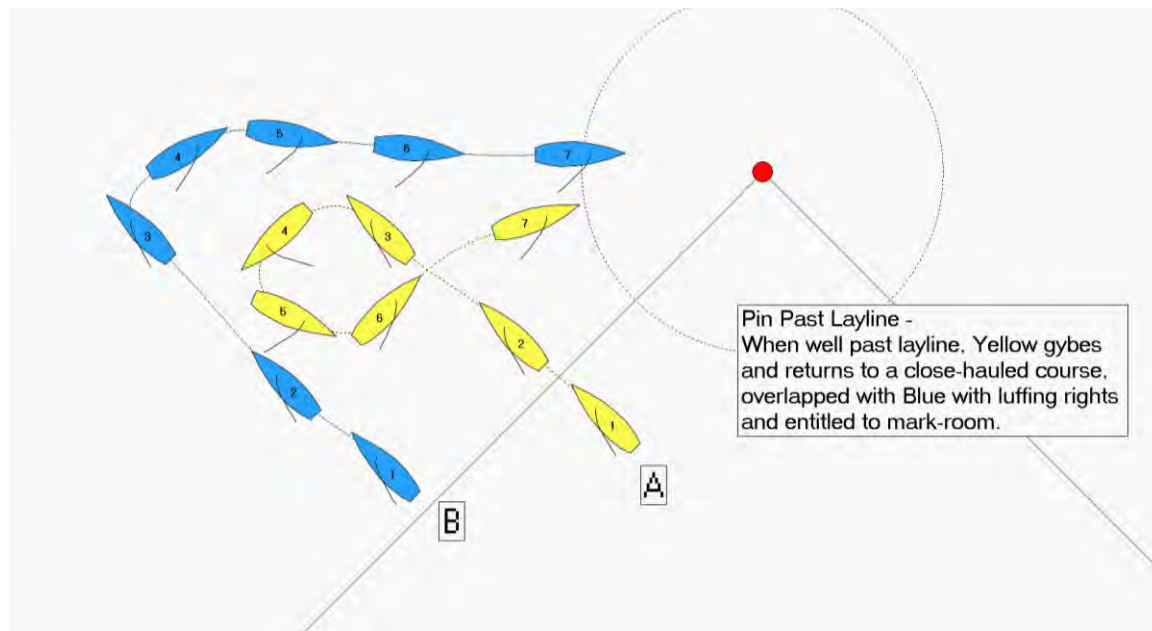
If you do not have enough lead to take penalty and remain ahead of opponent

Halfway up the second beat (leg 3) make the decision regarding if you have enough lead to take the penalty and remain ahead. If you do not, then decide if you are willing to take your penalty knowing you will end up close behind with the remainder of the race to pass your opponent back. If you do not want to take this risk (and my preference is to not give up the lead), then here are some plays you can try to spin or offset your penalty and remain in the lead ("Spin & Win").

Pin Past Layline

This works best when the boats are on starboard tack, and the leader (A) is to windward and astern of the trailer (B) such that B cannot tack without fouling. A sails well past the port layline and then gybes (takes her penalty). A needs to be sure she comes all the way up to close-hauled, and sees the umpires lower her penalty flag and hears the umpire whistle (rule C7.4(c)), before bearing away to the mark.

Coaching Point: A (with the penalty) should set up to B's right on the leg. The more to windward and astern A can be, the better. B should not let herself get to the left of the leader. If B is on starboard tack and passing astern of the leader, she should tack the moment she can sail in clear air on the windward hip of A (about 2-3 lengths to windward).



Draw Them In

Once A has decided to not take the penalty, she must then get the boats close. Her goal is to enter the zone of the windward mark with B just a couple of feet astern. From here, if B gets overlapped to windward, A can luff and stop them and maybe get an offsetting penalty. And at least the boats will start the downwind leg with B right behind A in the most vulnerable position. The goal for B is to stay 2 lengths back; no more – no less (“Play 2”)

Coaching Point:

- 1) A should arrive on the layline and then luff or overtrim their sails allowing B to catch up. The closer B is, the more powerful A is! B should keep two (2) boat lengths back at all times (“Play2”). If A luffs their sails, B does the same and keeps their safe distance back. If B is on A’s stern as A rounds the windward mark, B can widen and delay their turn to drop two (2) boat lengths back.
- 2) Once A’s bow crosses an imaginary line drawn from the leeward mark through the windward mark, they are on leg 2 or 4, and their penalty becomes a tack.

“Luff & Spin” or “Reach & Gybe”

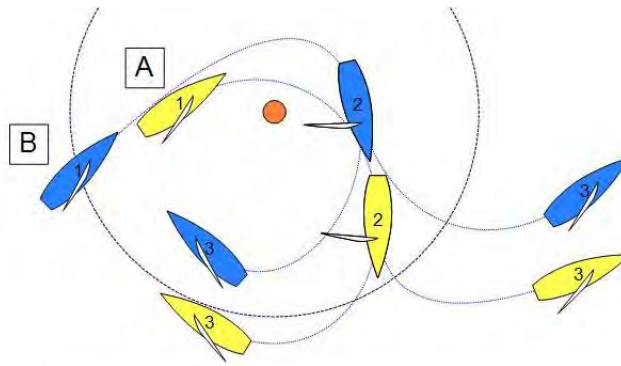
As A rounds the windward mark, and provided B is directly behind them, normally A should *not* set her spinnaker! If B does set, it is a great opportunity for A to luff them and get an offsetting penalty. (The one exception is if there is a gap between the boats and the trailer could do a quick set and gybe and pass the leader on the right.)

Plays:

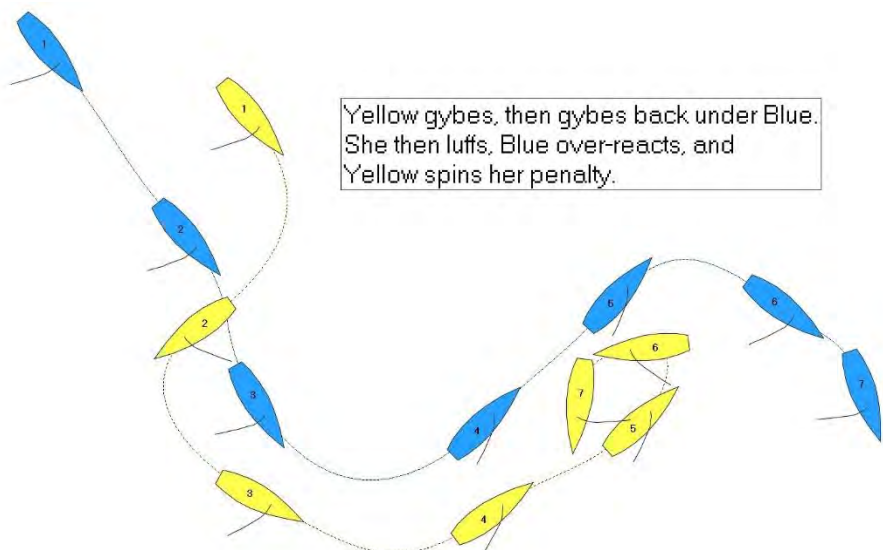
- a) A should sail low and slow. If B overlaps A to windward, A can luff; and if B over-rotates in response, A can continue into a tack and take their penalty (Luff & Spin). If B overlaps her to leeward, A can gybe and, after giving B room to gybe, luff B in the same way. (see diagram)
- b) If B is not catching up to A, A can head up to a beam reach on port tack. If B stays away, A can gybe and go towards B (Reach & Gybe).
 - i) If B cannot pass astern of A, B will have to gybe, putting A into a strong position to leeward on starboard tack.
 - ii) If B luffs to pass astern of A, and if A can do a Dial Up, her tack will clear her penalty (see diagram).
 - iii) If A cannot dial B up, then A has to gybe immediately to keep to B's left (looking downwind). A then sails low and slow again, waits for B to do the same, and then reaches up on port and the game continues. If when A gybes back to port, B gets locked to windward of her, A can try a Luff & Spin.
- c) If the race continues to the finishing line, A should try to enter the zone of the race committee boat on nearly a close-hauled course with B astern of them.
 - i) If A has speed, she may be able to tack onto port tack (get to close-hauled on port) then tack back onto starboard and bear away and finish. B must give her mark-room throughout the maneuver, so will be at risk if she tries to sail between A and the committee boat (rule C2.9, 18.2(a)(2)). But A is required to keep clear of B as she is turning left back onto starboard tack until she is below 90 degrees to the true wind (rules C7.2(a)(2) and 21.2).
 - ii) If A does not get to close-hauled on port tack, then when she turns back to the left, she is not taking a penalty (the umpires should make repetitive short sounds; see rules C5.6 and C7.4(b)).
 - iii) Or A can stop in the zone and try to get B overlapped to windward of her where B will fail to keep clear under rule 11.

Coaching Point:

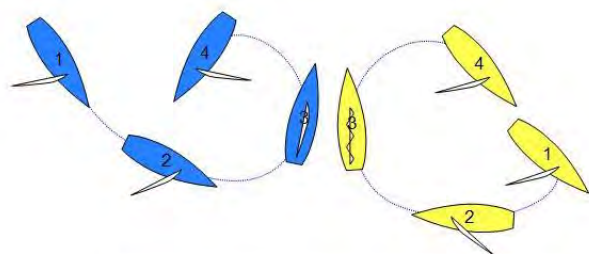
- 1) A has to really get B close behind her for this to work (overtirm main, do large turns, etc.). B has to really stay back two lengths so it won't work ("Play 2"). A needs to be sure she stays to B's left looking downwind to preserve her starboard tack advantage. B should try to get to A's left, which will give her the starboard advantage and effectively end the race! All of this typically happens with both boats sailing very downspeed.
- 2) Also A needs to be aware of where the starboard layline to the finishing line Pin is. Once B passes that line, she could try to gybe and beat A to the finishing line.



A has a penalty. She sails dead downwind after rounding the windward mark. B is faster and needs to choose which way to avoid A. In both cases, A becomes the leeward boat, with options to offset or take her penalty.



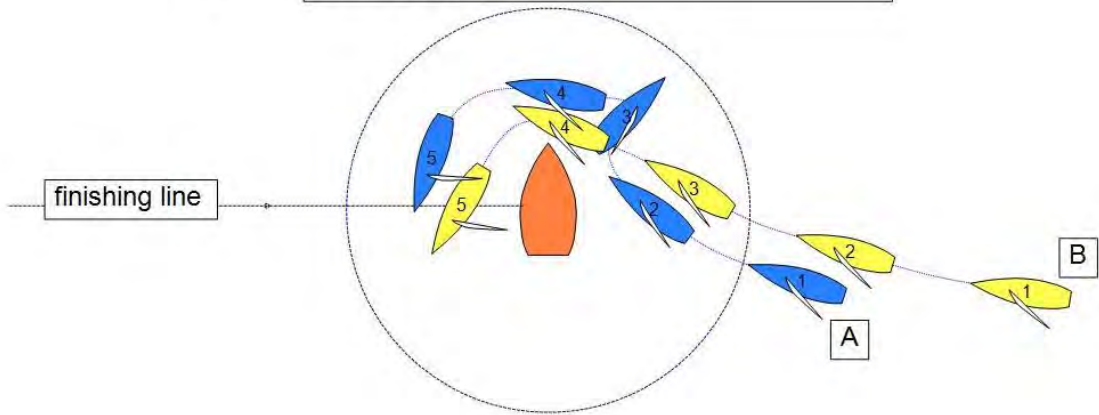
Yellow gybes, then gybes back under Blue.
She then luffs, Blue over-reacts, and
Yellow spins her penalty.



Penalty Turn: Downwind Dial-Up
(Yellow has a penalty at position 1)

WIND
↓

Penalty Kill at the finishing line...
B fails to give A mark-room and touches mark.
A fails to keep clear while taking a penalty.
Penalty on A; double penalty on B.
A wins race.



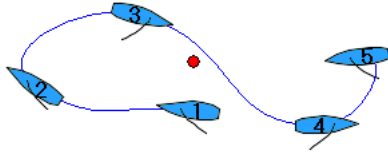
North U Playbook

Match Race Drills

SOLO WORK - Pre-start

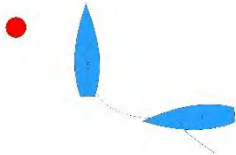
1) Entry Loop

Start a 5:00 minute countdown.
Sail a figure-8 course passing buoy.
On each minute, "enter".
Practice entries leaving buoy in both directions.



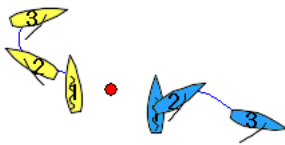
2) Stop & Sit by Buoy

Beam reach towards a buoy.
Stop and hold position as close to buoy as possible,
for one minute or more.
a) to leeward of buoy
b) to windward of buoy



3) Exit Work

Sail head to wind and hold until slow or stopped.
Then sail on:
a) port tack and accelerate quickly
b) starboard tack and tack or gybe as soon as possible
Repeat.
If coming from port tack, bear away to a close-hauled course on starboard tack, then luff back up to head to wind.
Can be done with Stop & Sit by Buoy Drill

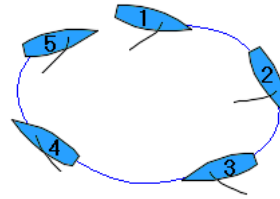


4) Reverse Sailing

Sail head to wind. Begin sailing in reverse.
Exit on port or starboard tack.
Repeat.
Can be done with Stop & Sit by Buoy Drill

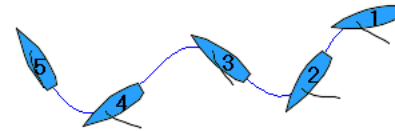
5) Circling Work

Sail in ovals, both clockwise and counter-clockwise.



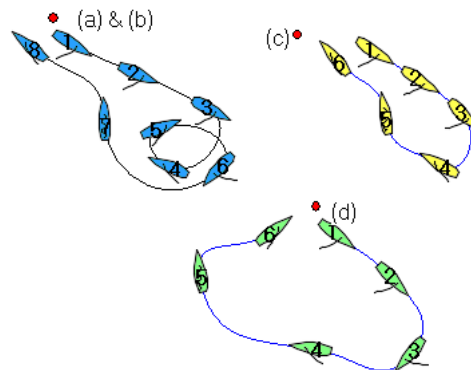
6) Fishtailing Work

On starboard and port tack, do repeated "up" and "down" turns, also slowing and accelerating along the way. Do some with helmsman looking aft the entire time.



7) 2:00 Minute Drills

- sail by buoy on a broad reach and start a 2:00 minute countdown on watch. Do one gybe. Be just to the left of the buoy at full speed at 0:00.
- do (a), but with one or two circles after beginning the 2:00 minute countdown.
- Do (a) or (b), but be just to the right of the buoy at 0:00.
- Do (a), but do one gybe and then one tack, and be just to the left of the buoy on port tack at 0:00.



North U

Match Race Drills

SOLO WORK – Upwind & Downwind

1) Tacking Work

- a. do VMG tacks
- b. do downspeed tacks
- c. do fake tacks
- d. do 3-4 tacks in a row

2) Ducking / Hunting Work

- a) Do a large bear away, then return to close-hauled. Do on both tacks.
- b) Do (a) but after returning to close-hauled, immediately tack. Do on both tacks.

3) Penalty Turn Work

Sail close-hauled, then gybe and return to close-hauled on other tack. Do on both tacks.

4) Windward Mark Rounding Work

Approach windward mark, then round mark. Do on both tacks. Exit the mark on port and on starboard tack.

- a) Do some slowing down, and ducking/hunting on both tacks
- b) Put spinnaker pole up and use hoist commands, but do not hoist spinnaker
- c) Do full spinnaker hoist

5) Gybing Work

- a) do VMG gybes
- b) come out low (Deep)
- c) come out high (Hot)
- d) do fake gybes (both tacks)
- e) do two quick VMG gybes
- f) do double gybes (flip/flop) on port tack

6) Slow Work

Slow the boat down by

- a) overtrimming sails
- b) oversteering
- c) sailing low (soaking)

7) Leeward Mark Rounding Work

Approach leeward mark, then round mark. Do on both tacks, and from all angles.

Exit mark on starboard and on port tack.

8) Penalty Turn Work

Sailing downwind with spinnaker up, lower spinnaker, do a tack and return to a broad reach. Be sure spinnaker head is below gooseneck before bow passes head to wind.

- a) do this around a buoy clockwise
- b) do this approaching a buoy on port tack and turning counter-clockwise
- c) do this between two buoys with someone watching to see if you were clear of the line after passing a beam reach, but as close to line as possible

North U Playbook

Match Race Drills

PAIRS WORK – Pre-start

1) Dial Up Work

Do Repeated Dial Ups

- i. Start watch at 1:00; enter at 0:00
- ii. After exit, start watch at 1:00; enter at 0:00
- iii. Switch ends
- iv. Options:
 1. Yellow holds for 30 seconds and tacks to port; Blue follows on port
 2. If Yellow forward: Yellow holds for 30 seconds then sails on starboard and tacks as soon as possible; Blue matches
 3. If Yellow forward: Blue tacks first and goes below Yellow; Yellow sails on starboard and gybes
 4. If Blue forward, Blue sails on starboard and Yellow matches
 5. Go in reverse (sailing backwards)

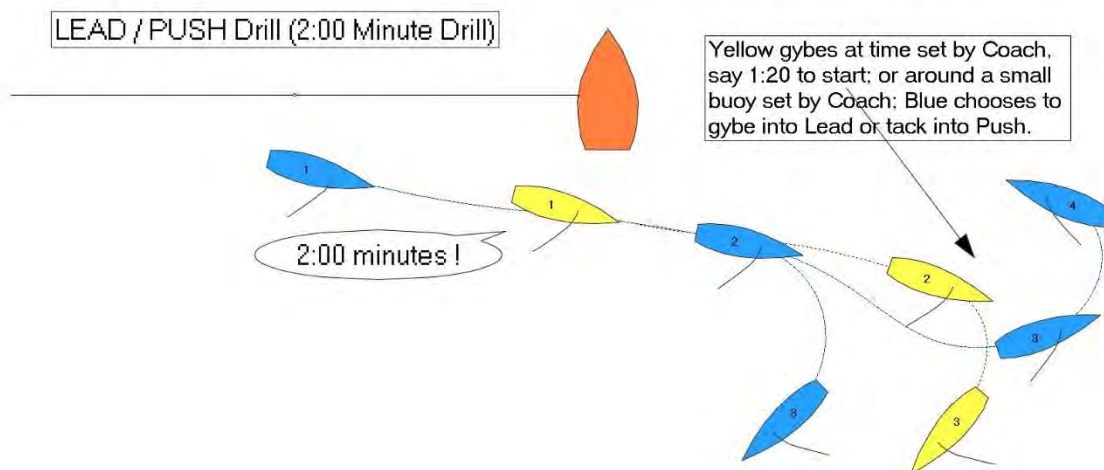
2) Lead/Push (2:00 Drill)

- a. Set Up:
 - i. The two boats reach along the starting line on port tack.
 - ii. When the leading boat nears the Committee Boat or right hand end, the trailing boat counts down to start watches at 2:00 minutes.
 - iii. After passing the Committee Boat, the leading boat sails on a broad reach; the trailing boat stays about two lengths back
 - iv. There is no circling. The leading boat chooses when to turn back for the Final Approach to the line, and the trailing boat chooses whether to Lead or to Push
 - v. Switch leading and trailing boat and repeat
- b. Options:
 - i. Get best start possible
 - ii. Both try to win the right
 - iii. Both try to win the left (pin favored, if possible)

Note 1: Coach can add a “Turn Back” buoy (a small buoy placed on a broad reach angle about 30-40 seconds from the Committee Boat). If “Turn Back” buoy is in use, the leading boat must gybe around the “Turn Back” buoy for Final Approach (the other boat can decide whether she wants to Lead back or Push)

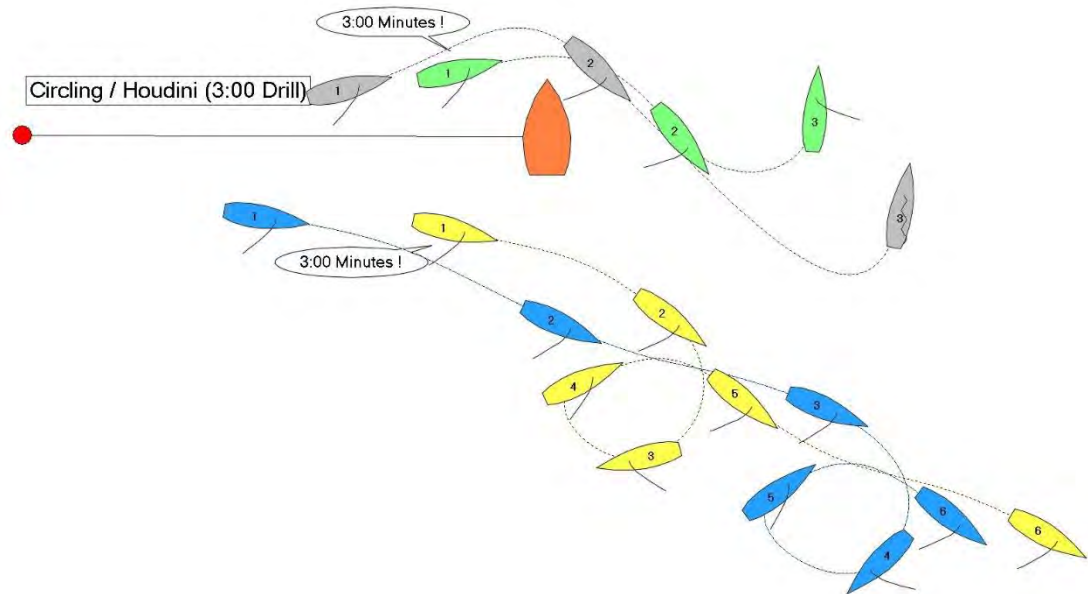
Note 2: Coach can state the time that the leading boat must gybe and turn back for Final Approach, e.g. 1:20 to start

Note 3: Coach can raise a flag each time a boat crosses the starting line, to give instant feedback on how far from line boat was at start (early or late)



3) Circling / Houdini (3:00 Drill)

- a. Set Up:
 - i. The two boats reach along the starting line on port tack.
 - ii. When the leading boat nears the Committee Boat or right hand end, the trailing boat counts down to start watches at 3:00 minutes.
- b. Circling
 - i. The trailing boat stays about two lengths back
 - ii. The leading boat passes to leeward of the Committee Boat and starts circling
 - iii. Each boat must circle at least once; at the appropriate time whichever boat is leading will gybe and turn back for Final Approach; the other boat will choose to Lead or Push
 - iv. If "Turn Back" buoy is in use, the leading boat must gybe around the "Turn Back" buoy for Final Approach (the other boat can decide whether they want to Lead back or Push)
 - v. Switch leading and trailing boat
- c. Houdini
 - i. The trailing boat gets right behind the leading boat
 - ii. The leading boat passes to windward of the Committee Boat, goes two lengths (about 5 seconds) and stops (head to wind, main backwinded)
 - iii. The leading boat tries to escape and set up for best start; the trailing boat tries to maintain control and get best start
- d. Options:
 - i. Get best start possible
 - ii. Both try to win the right
 - iii. Both try to win the left (pin favored, if possible)



4) Crossing

Set Up:

- i. Blue and Yellow do normal entry.
- ii. Yellow lets Blue cross either to leeward or to windward.
- iii. Exit drill when Blue escapes or after about 1 minute
- iv. Repeat drill
- v. Switch ends
- vi. Note: this drill sets up better if Yellow enters late or if one end is favored (further upwind or downwind)

5) Control / Escape “Cops & Robbers”)

Set Up:

- i. two boats beam reaching about a length apart on starboard tack past a buoy (the Jail entrance); when trailing boat passes buoy, the drill begins
- ii. boat in front's goal (the Robber): sail to leeward of buoy on port tack as quickly as possible (exit Jail)
- iii. boat behind's goal (the Cop): prevent other boat from sailing past buoy on port tack for as long as possible (keep them in Jail)
- iv. change boat ahead and behind

North U Playbook

Match Race Drills

PAIRS WORK – Upwind & Downwind

Upwind Drills

1) Lee-Bow Drill

- a. Port ducks Starboard to start drill (Rabbit Start); or
- b. The two boats sail on a beam reach with one about a length behind the other; the leading boat luffs to close-hauled and the trailing boat does the same and then tacks away
- c. Both boats sail for approximately 20 seconds and both boats tack
- d. One boat lee-bows the other
- e. If the windward boat can live after the tack, she lives for 10 seconds and tacks away; if not, she tacks away immediately after the lee-bow, sails for approximately 20 seconds, and both boats tack again
- f. Note: If one boat gets too far ahead, the boat ahead adjusts so that one boat always has a “piece” of the other when they converge
- g. Continue tacking every 20 seconds or so

2) Slam Dunk / Tack & Pin Drill

- a. Begin drill as in Lee-Bow Drill
- b. Both boats sail for approximately 20 seconds and both boats tack
- c. Port ducks Starboard and Starboard either Slam Dunks (tacks immediately into a windward position), or Tacks & Pins (waits about 2 seconds before tacking into a windward position)
- d. If boats end up on same tack, after about 10 seconds the boats should separate and repeat
- e. If boats end up on opposite tacks, after about 20 seconds the boats should both tack and repeat

3) Living to Windward Drill

- a. Both boats sail on a beam reach, one boat-length apart, bow to stern.
- b. Trailing boat counts down (“2-1-now”) and both boats head up to close-hauled
- c. Windward boat tries to “live” as long as possible to windward
- d. Leeward boat tries to make windward boat “go away” as fast as possible
- e. Tack and repeat drill on other tack

4) Windward Mark Approach Drill

- a. Approach Windward Mark on opposite tacks where one boat has a piece of the other (Top Mark Meet)
- b. Approach Windward Mark on same tack and overlapped or one right behind the other, from about 8-10 lengths away from mark
- c. Each time, round the Windward Mark. Raise the pole and use spinnaker hoist commands as you would in a race, but do not set the spinnaker.
- d. After rounding, stay on port tack for about 30 seconds then gybe and sail for about 30 seconds on starboard tack
- e. Repeat drill

Downwind Drills

1) Race Downwind

- a. Enter and race downwind from a starting line to a Leeward Mark; or
- b. Round Windward Mark one behind the other and race downwind to Leeward Mark / Finishing Line
- c. Keep the boats close (within two lengths); try different moves:
 - Port passing astern of Starboard
 - Both boats on starboard approaching the port layline
 - Gybing on leader's wind; Leader keeping their wind clear
- d. Race to the Finishing Line with the Leader having a penalty

2) Continuous Upwind / Downwind Tactical Drills (No spinnakers)

- a. Set a windward / leeward course with the leg lasting about 1:30 minutes
- b. As the boats approach the leeward mark, the leader rounds the leeward mark and the trailer cuts the mark ending up bow-to-bow with the leader, then tacks away

3) Penalty Kill

- a. Race to windward mark with one boat having a penalty.
- b. After rounding mark, do not hoist spinnaker. Sail downwind for a minute debriefing the penalty kill attempt, and repeat. Approach mark on both port and starboard tacks.
- c. Race to windward mark and then to finish with one boat having penalty. Keep the downwind leg short. Try to have a powerboat anchored as the committee boat. After finishing, start sailing upwind as you debrief the penalty kill attempt, then repeat with other boat having the penalty.

MATCH RACING RESOURCES

FOR MATCH RACING INFORMATION IN NORTH AMERICA

US SAILING Match Racing webpage: ussailing.org – select: Competition > Adult > Racing > Match Racing

There you will find:

- 1) **The North American Match Racing Master Calendar** for regattas and clinics
- 2) **a complete study of the rules for Match Racing**, including:
 - A video explanation by Dave Perry of the rules for Match Racing
 - A powerpoint by Dave Perry with over 30 scenarios highlighting the game changes under the new rules
 - Dave Perry's paper called *A Different Game* explaining the tactical changes under the new rules
- 3) ***The Dial Up*** For comprehensive information on Match Racing in North America, sign up to receive the free North American match racing e-newsletter called *The Dial Up*. Sign up at the US Sailing Match Racing webpage.
- 4) ***The North U Match Racing Playbook by Dave Perry, Fourth edition***
- 5) ***North U Match Racing 101*** and ***Master Class*** recordings
- 6) A manual called ***The Why & How to Get Involved in Match Racing***
- 7) **Resources for hosting match races**
- 8) **Resources for match racing race officials** (race management and umpiring)
- 9) **Coaching papers from Dave Perry**

For information on the Open and Women's Match Racing Tour, go to:

Open - <https://wmrt.com/>

Women - <https://womenswmrt.com/>

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